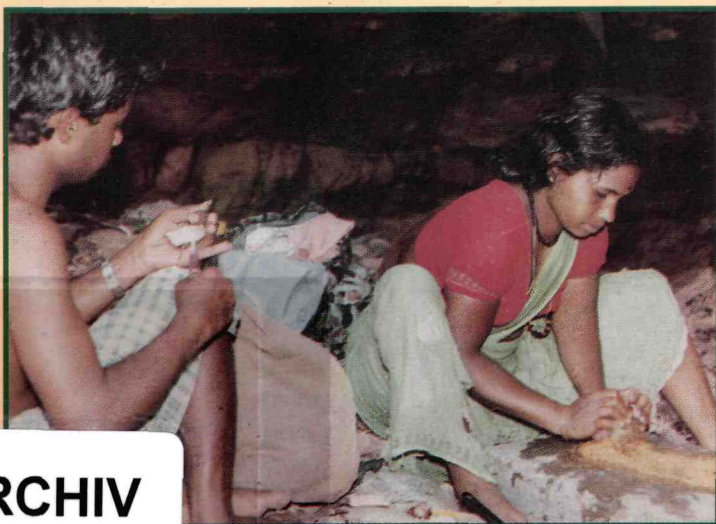




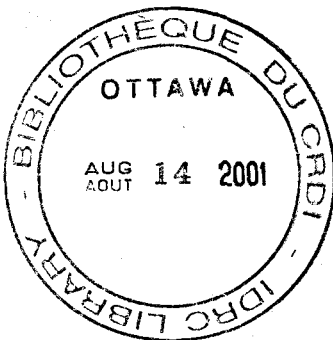
**IDRC MEDICINAL
PLANTS NETWORK**



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The International Development Research Centre is a public corporation created by the Parliament of Canada in 1970 to support research designed to adapt science and technology to the needs of developing countries. The Centre's activities are concentrated in six sectors: agriculture, food and nutrition sciences; health sciences; information sciences; social sciences; earth and engineering sciences; and communications. IDRC is financed solely by the Parliament of Canada; its policies, however, are set by an International Board of Governors. The Centre's headquarters are in Ottawa, Canada. Regional Offices are located in Africa, Asia, Latin America, and the Middle East.



**MEDICINAL PLANTS:
AT THE NEXUS OF HEALTH AND THE
ENVIRONMENT**

In 1990, the World Health Organization launched its "Health for All by the Year 2000" campaign. Two years later, world leaders gathered for the United Nations Earth Summit declared their commitment to sustainable development, including the preservation of the Earth's resources for future generations. Two different goals, two different strategies.

But for over 80% of the world's population, these two goals are intrinsically connected. For approximately 4.5 billion people, 'health for all' cannot be achieved without the 'preservation of the Earth's resources.' Because this majority of the world's population, mostly in developing countries, depends upon medicinal plants for primary healthcare. When in situations of need, these people turn to ayurveds, folk healers, and other traditional practitioners.

These practitioners work according to different systems--some classical and well-documented for 5,000 years; others at the village level, and conveyed only by means of stories and dances. They make use of a huge variety of plants. Already, over 35,000 species are known to be commonly used, and this does not account for even half of the localized folk medical practices. From the use of hibiscus for antifertility, to the use of quinine (derived from cinchona bark) for malaria, medicinal plants make a difference to people worldwide. Even in the modern allopathic system, 25% of prescribed drugs owe their existence.

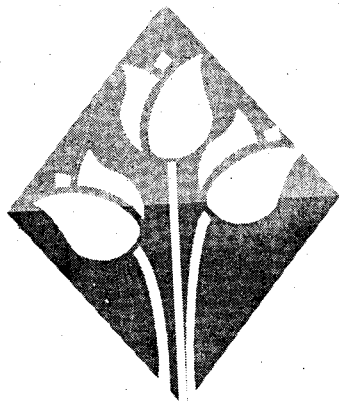
But medicinal plants, and the people who rely on them, are increasingly threatened. Deforestation and habitat destruction are fast eliminating the global resource base. Added to this are illegal and exploitative trade

patterns in an industry that lacks quality controls and effective and equitable markets. Finally, an erosion of traditional knowledge and culture, parallel to the erosion of biodiversity, threatens the continued existence of many medicinal practices, and ultimately of the people who make use of them.

THE IMPN SOLUTION

In 1993, the International Development Research Centre (IDRC), Canada's designated lead agency in its work on Agenda 21, launched IMPN—the International Medicinal Plants Network. With a Secretariat located in New Delhi, and projects and activities throughout South Asia, IMPN was launched with the long-term goal of developing a strong and coordinated multi-donor effort on medicinal plants at the global level.

Since its inception, IMPN has organized projects and workshops throughout South Asia, as well as served as a forum for researchers and development specialists to network with one another and cooperate in joint activities designed to encourage a sustainable and equitable medicinal plants sector. From this base in South Asia, IMPN is also now working actively to link with researchers and scientists worldwide, especially in Asia, Africa, and Latin America.



IMPN's ACTIVITIES

The Primary thrust of IMPN's work is its coordination and support of a Strategic Research Portfolio. Programs in the portfolio address three program areas, designed to cover the full range of activities in the medicinal plants sector from production to consumption: Conservation and Cultivation, Marketing and Enterprise, and Health and Medicines.

In addition to awarding several small research grants in each of these areas on a regular basis, the Network also provides several services and publications, including directories and electronically networked forums.

IMPN's MEMBERS

Individuals and organizations from governments, universities, NGOs, research institutions and the private sector all contribute to and benefit from IMPN. Projects and activities reflect a multisectoral approach that brings together all the key players in the sector to design and implement mutually acceptable solutions to the many issues raised by the current state of the medicinal plants sector.





BIODIVERSITY CONSERVATION

Over 2/3 of medicinal plant diversity is located in developing countries, with a wealth of unresearched species also at risk. Most conservation strategies currently in place do not specifically address medicinal plants. It is therefore unknown to what extent the medicinal biodiversity is threatened. The Biodiversity Conservation portfolio will research the effectiveness of already-existing and newly-proposed methods of *in-situ* conservation, and facilitate the development of regional strategies and action plans for each in South Asia. In addition, the Biodiversity Conservation portfolio will include novel cultivation and *ex-situ* conservation efforts with selected species of great importance to the region, and efforts to enhance and improve the current genetic resource base.



BIODIVERSITY: RELATED IMPN PROJECTS AND ACTIVITIES

Ex-Situ Conservation and Propagation of 10 Commonly-Used Ayurvedic Plants Arya Vaidya Sala, Kerala, India

This project selected the best stocks of ten species commonly-used in ayurveda whose natural stocks are declining, and developed sustainable *ex-situ* propagation techniques for the plants. The project will now be expanded by IMPN, with a concentration on extension of the propagation techniques and the raw materials to the local farmers, in novel buy-back agreements between the lead agency and the small landholders. The project's work has already attracted attention as it currently holds the largest nursery in the world of the important plant *coscinium fenestratum* (pictured at left).

Biodiversity Regeneration Using Underutilized Lands Centre for Environmental Research, Bangladesh

Recognizing the inadequacy of typical conservation methods in Bangladesh's severely degraded environment, this project chose a unique strategy of utilizing lands typically left undeveloped, such as those near railway tracks and the like, as a locus of regenerating biodiversity. Building on a Network-sponsored baseline assessment of medicinal plant biodiversity in Bangladesh, this project is working with local communities to design a regeneration strategy, especially focusing on women.

Development of Vegetative Propagation Techniques in Eastern Ghats Applied Rural Technology Institute, Pune, India

Development of propagation techniques for five selected species, through survey of localities in which the species naturally occur; standardization of cloning techniques; training of local inhabitants; and establishment of nurseries of the species.





MARKETS AND ENTERPRISE

Estimates of the global market value of medicinal plants range from 35 to 64 billion USD per year. This makes the sector an enormous actual and potential means of income generation for people in developing countries. Yet currently, our understanding of the medicinal plants trade is very limited, with only a few reliable large-scale statistics. Because medicinal plants have been dealt with under the headings of forestry, agriculture, health, food and nutrition, family welfare, and commerce, little reliable aggregated data exists regarding their trade. In addition, there currently exists almost no good data on the actual path followed by medicinal plants from the soil to the shop-information of extreme importance in designing interventions that bring needed income to poor people. IMPN research in this theme is action-oriented: concentrating on the extent and need of value-added technologies, quality controls, and intellectual property protections; on the nature and extent of policy and technology bottlenecks; and on the precise volumes and value of the present trade.

ENTERPRISE: RELATED PROJECTS

Study of Marketing and Trade of Medplants in Himachal Pradesh

Society for Environmental and Rural Awakening (ERA), Himachal Pradesh, India

This project will document flow in terms of volume and price traded of raw materials and processed products out of and into the 4 resource rich districts of Himachal Pradesh. It will follow the marketing chain from producer to consumer, with specific reference to recommending how to obtain more benefits both short and long-term for the local plant collectors, through value addition technologies, improved harvesting practices, policy change, and market information dissemination.

Survey of Indigenous Pharmaceutical Industry

Various Agencies, South Asia

The agencies involved in this project are conducting a representative survey of the large and largely informal, undocumented South Asian traditional drugs processing sector, evaluating potential areas of collaboration as well as the special needs of the industry in terms of resources and technological inputs.

Small Papers on NTFPs in Nepal

Asia Network for Small-Scale Agricultural Bio-Resources (ANSAB), Nepal

In cooperation with the Nepal NTFP Network, IMPN is sponsoring approximately 25 small grants for papers on medicinal plants use. These papers study different aspects of the collection and trade at the local level and of relationships between different participants in the trade. A variety of disciplinary approaches are being taken, including anthropological, economic, and sociological, to give a variegated picture of the districts and villages under study.



Indigenous Knowledge: The song these Yannadi children sing contains herbal prescription for eczema

HEALTH AND MEDICINES

Until very recently, traditional medicines have been neglected by development and government agencies, with the consequence that traditional systems of knowledge have begun to break down. There is a tremendous need to revitalize these medical systems. The Health and Medicines portfolio will develop educational and research projects that put the medicinal wealth of the forest into the hands of the people who need it most. Ethnobotanical surveying, validation of drugs for safety and toxicity, and integration of modern and traditional medical systems are among the long-term goals of this plan.



HEALTH: RELATED PROJECTS

Standardization of Ayurvedic Preparations for Arthritis

Ceylon Institute of Scientific and Industrial Research, Sri Lanka

This project has documented ayurvedic formulations currently in use for prevention and treatment of arthritis and symptoms of arthritis, as well as those described in ancient, authoritative texts. The project is evaluating these formulations for effectiveness, toxicity, and side effects, to derive a set of protocols for preparing the most effective and safe medicines.

Training of Rural People in Green Health Kits

MS Swaminathan Research Foundation, Madras, India

This project is focused on developing and disseminating green health kits consisting of common plants effective in preventive healthcare. The project will begin training women and children in rural communities in best practices for cultivation and use of the plants, thus promoting self-sufficiency in healthcare delivery at the grassroots level.

Neem: Development and Testing of Azadirachtin

Indian Institute of Immunology, New Delhi, India

Vittal Mallaya Scientific Research Foundation, Bangalore, India

The earliest in the networks portfolio, this project developed a breakthrough means of extraction and separation of azadirachtin, the active ingredient of neem used in toothpastes, biopesticides, and the like reducing the expense of production by two orders of magnitude. In addition, the project tested immunological properties of the extract, making positive findings of its potential as an effective immunomodulator for use in surgical and related procedures.



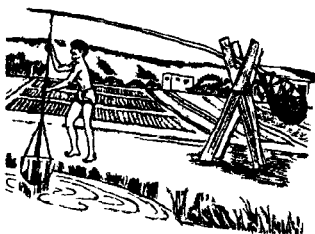
IMPN's TARGET COMMUNITIES

Users of Traditional Medicine



The 4.2 billion people around the world who make use of medicinal plants for primary healthcare all stand to gain from IMPN's work. IMPN's programs are designed to raise the profile of traditional medicines, to find ways of delivering them more safely and effectively, and to enhance the resource base on which they depend. All of these programs translate into benefits for the people who need the medicine that only the forests can provide them.

The Rural Poor, Farmers, and Small Land-Holders



Medicinal plants offer major potential benefits to farmers who can breed and cultivate them. IMPN's *ex-situ* conservation and extension projects aim to help farmers successfully grow profitable species of medicinal plants for sale. In addition, IMPN's projects aim to help both collectors from the wild and farmers in gaining equitable access and participation in the market.

Women in Developing Countries



Micro-level studies show that women are extensively involved in the collection and harvesting of medicinal plants, often as a secondary or tertiary, but vital, source of income. In addition, as the primary caretakers for rural and poor families, women play a vital role in traditional medical systems.

IMPN's TARGET COMMUNITIES

Indigenous and Tribal Peoples



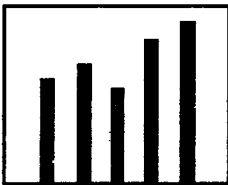
The creativity and innovation of tribal and indigenous peoples around the world are only beginning to be revealed to the Western world. IMPN's programs will help to raise the profile of these people, and to provide them means by which to equitably share their knowledge, skills, and resources with the rest of the world.

The Environment and Tropical Forests



The market value of medicinal plants harvested from a single acre of forests has been shown to exceed the value of using that same forest for timber. In addition, many medicinal plants, unlike timber, grow back again quickly and can be annually harvested. IMPN's programs enhance this role of medicinal plants, and thereby contribute to reducing deforestation in developing countries.

National and International Governments



A well-organized and thriving medicinal plants sector can translate into notable gains for national governments, including better health and life expectancies, progress in national development indicators, and enhanced trade relationships and benefits:

IMPN SERVICES

IMPN-LIST

A variety of electronic mail list-serv discussion groups on relevant topics are being established through IMPN, including those on biotechnology, ethnobotany, biochemistry, the private sector, public health, and resource conservation.

IMPN-INFO

A comprehensive relational database on people, plants, and products in the sector. Information from all Network projects, as well as government, NGO, and private sector statistics are included. A host of screens will enable data input from a variety of fields for multidisciplinary research and information. Screens being developed include:

- Agronomic Techniques
- Ethnobotanical Information
- Market Research
- Pharmacological Trials
- Geographic Distribution
- Bibliographic Information
- Experts/Professionals Directory
- Organizational Directory

IMPNews

A newsletter covering current events, reports on network-supported projects, profiles of those in the field, and related topics is published on a quarterly basis by the network.

Training and Education

The Network works with researchers and education experts to develop training modules for extension and use of its research results.

IMPN PUBLICATIONS

General Interest

Tribal Plant-Based Medicine in South India

The report of the ethnobotanical and ethnomedical studies conducted through network support to the Herbal Folklore Research Centre, in Chittoor District, Andhra Pradesh. Available Spring 1997

Proceedings

Healing Forests, Healing People

Proceedings of the first IMPN Networkshop held in Calicut, India. Second Edition available Summer 1996

The Role of Medicinal Plants, Bamboo, and Rattan in Mountain Development

Proceedings of the 8-country IMPN-INBAR-ICIMOD-IPGRI Workshop. Available Winter 1996

Medicinal Plants: Priority Species for South Asia

Proceedings of the 7-country Networkshop on Species Prioritization. Available Spring 1997

Country Studies

The Medicinal Plants Sector In India: A State-of-the-Art Review.
Available Winter 1996

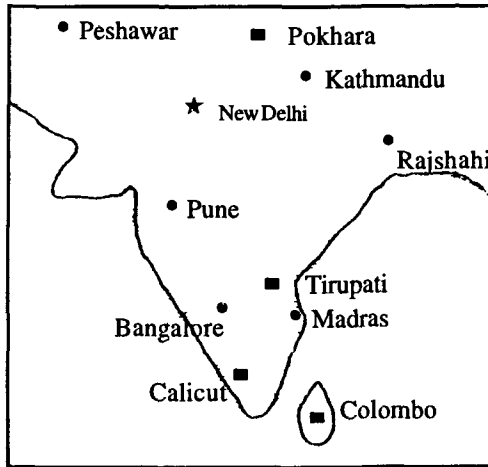
The Medicinal Plants Sector in Pakistan: A State-of-the-Art Review.
Available Spring 1997

Reference

Medicinal Plants Sourcebook: South Asia

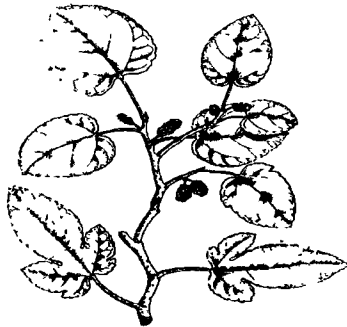
A comprehensive directory of the major people, plants, and products relating to the medplants sector in the region. Available Winter 1996

IMPN in South Asia

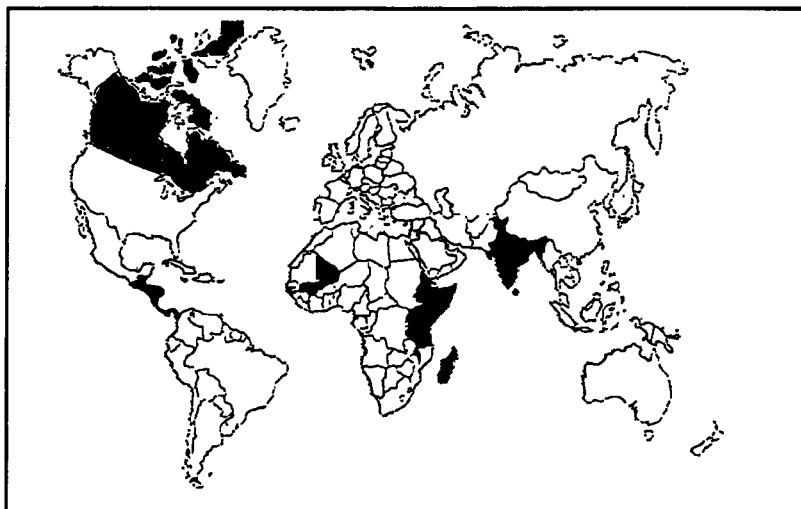


- Project Locations
- Workshop Locations
- ★ Secretariat

Active Countries:
Bangladesh, India, Nepal,
Pakistan, Sri Lanka



IDRC Medicinal Plants Activities Worldwide



Medplants-related projects currently
underway through IDRC support



STAFF AND ADMINISTRATION

Network Secretariat

- | | |
|------------------------|--|
| • Dr. Cherla B. Sastry | Director |
| • Mr. Jason Holley | Network Coordinator |
| • Dr. S. Natesh | Principal Advisor, Research and Networking |
| • Dr. Trevor Williams | Principal Advisor, Science and Policy |
| • Ms. Grace Domingo | Program Assistant |

Research Advisory Group

- | | |
|--------------------------|---|
| • Dr. V.K. Nambiar | Arya Vaidya Sala |
| • Prof. M.I. Zuberi | Center for Environmental Research, University of Rajshahi |
| • Dr. Lakshmi Arambewela | Ceylon Institute for Scientific and Industrial Research |
| • Dr. N.C. Shah | Central Institute for Medicinal and Aromatic Plants (retired) |
| • Dr. P.M. Ganapathy | Forestry Consultant |
| • Ms. Manjul Bajaj | Natural Resource Economist |
| • Dr. A.K. Sastry | World Wildlife Fund (WWF), India |

Network Advisory Group (IDRC)

- | | |
|-------------------------|--|
| • Dr. Bertha Mo | Senior Program Officer, Health and Biodiversity |
| • Dr. Chusa Gines | Chief Scientist, Biodiversity |
| • Dr. Anwar Islam | Senior Program Specialist, Health Sciences |
| • Dr. Ron Ayling | Senior Program Officer, Forestry |
| • Dr. Stephen Tyler | Senior Program Officer, Biodiversity |
| • Dr. I.V. Ramanuja Rao | Principal Scientist, International Network for Bamboo and Rattan |
| • Dr. Daniel Buckles | Senior Program Officer, Biodiversity |

International Donor Consortium

- | | |
|----------------------------|--|
| • Dr. Aung Gyi | Regional Director, South Asia, IDRC |
| • Mr. Shantanu Mathur | International Fund for Agricultural Development (IFAD) |
| • Dr. Jeff Campbell | Ford Foundation |
| • Dr. Jittendra Srivastava | The World Bank |



IDRC MEDICINAL PLANTS NETWORK

The International Development Research Centre initiated in April 1994 a Medicinal Plants Research Network operating out of its South Asia office. This network aims at supplementing international and national/regional efforts in the area of medicinal plants by supporting research and development at local/micro levels. It is the aim of the network to facilitate collaboration, coordination, interaction and multidisciplinary research via networking between the different actors. The network has adopted a proactive, user based biodiversity conservation strategy and efforts are targeted at undertaking research in partnership with existing users of the resource base - local communities and indigenous industry. Focal areas of research include documentation of folk traditions and knowledge, *in situ* conservation, developing appropriate harvesting and cultivation techniques, improved quality control, storage and processing techniques.

Cover Design by Jayanthi Balakrishnan



Healing Forests, Healing People

For additional information, project description, publication order forms, or to be included on the IMPN mailing list, please contact the IMPN Secretariat:

IDRC Medicinal Plants Network

17 Jor Bagh

New Delhi 110 003

INDIA

impn@idrc.ca

Tel.: 9-11-4619411/2/3

Fax: 91-11-4622707