

SECRETS OF  
ETHNO  
MEDICINAL  
GARDENS

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## FOREWORD



India is endowed with rich medical heritage since ancient times. A large part of our population accesses their health care through native medical practices. More recently there has been a resurgence of these traditional systems of medicine; mainly due to knowledge about the limitations of the modern system, and also due to the world awakening to and accepting the holistic approach of these traditional systems. The benefits of the holistic approach of our traditional system can favourably contribute to the pluralistic medical need that is going to be the nature of healthcare in future.

Indian systems of medicine like Ayurveda, Siddha, Unani and folk stream heavily depend on medicinal plants, which are generally gathered from the wild. Large scale collection and unsystematic exploitation has led to peril of many plants. Similarly, enhanced collection and trade, more recently, has also resulted in depletion of resources. Inevitably this huge demand has resulted in a need to augment the resource and create mass awareness. One of the means for this is through herbal gardens.

India has a rich tradition of cultivation and gardening from prehistoric times. Our Vedic literatures too speak on the qualities and use of specific plants to the extent that few of them are worshiped to alleviate problems and to ensure well being. There are plants associated with different rituals and functions prescribed by our classic texts. Similarly, there are medicinal plants for certain thematic treatments of human diseases and also health promotion. Taking advantage of the traditional knowledge, this institute has established one of the best thematic ethno medicinal gardens, catering to education, conservation and utilization, with the financial support from Ministry of Environment and Forests. It is possible to replicate such a garden elsewhere in the country to represent the ecosystem specificity and regional/ phytogeographical representation.

'Secrets of EthnoMedicinal Garden' is an easy to follow Manual which will help anybody to replicate the EMG of I-AIM. The Manual, which is brought out with support from the Ministry of Environment and Forest, is divided into two sections - one on setting up a garden and the other on setting up a nursery. The first section gives various details such as habit, characteristics, medicinal uses, etc. of various plants, along with colourful photographs, in addition to giving assistance on how they can be used as various landscape elements. The second section deals with propagation techniques and setting up a state of the art medicinal plant nursery.

It is hoped that this book will be well received by all stake holders and encourage garden lovers to grow medicinal plants and thereby preserve our medical heritage. I congratulate the team for bringing out this user friendly publication.

A handwritten signature in black ink, appearing to read 'Bhushan Patwardhan', written in a cursive style.

Prof Bhushan Patwardhan  
Director  
I-AIM

## MESSAGE

जयराज रमेश  
JAIRAM RAMESH



राज्य मंत्री (स्वतंत्र प्रभार)  
पर्यावरण एवं वन  
व्यवसाय  
श्री रेजी-110003  
MINISTER OF STATE (INDEPENDENT CHARGE)  
ENVIRONMENT & FORESTS  
GOVERNMENT OF INDIA  
NEW DELHI - 110 003

14th December, 2010



It gives me immense pleasure to introduce this manual, which is an outcome of an extremely important study on medicinal plants by the Institute of Ayurveda and Integrative Medicine, with the support from the Ministry of Environment and Forests. My Ministry, entrusted this important task of understanding native medicinal plants, given that India has 7-8% of the world's floral and faunal diversity, with more than 45,000 plant species.

Over the several centuries, various ethnic communities living closely with nature have mastered the art of effectively using medicinal plants as resources for their health and well being. It, is in this context that I believe, that we need to have robust scientific and holistic documentation in order that we justly recognise, nurture and utilize the incredible benefits we accrue from the derivatives of medicinal plants. The Institute of Ayurveda and Integrative Medicine has done just that, whereby landscapes have been designed using medicinal plants to rightly bring attention to this invaluable resource.

With an easy-to-follow user manual, on how to landscape a garden using native medicinal plants, I am confident that this manual will not only be useful to the scientific community but to our society as a whole. I am confident that this will be a useful tool to impart cultural education about our native medicinal plants and I do hope that this will result in a complete series of publication which can be translated into actionable interventions for our society.

I hope that this publication will be a grand success.

Jairam Ramesh

## MESSAGE



FRLHT

Institute of Ayurveda and Integrative Medicine (IAIM)

An initiative of FRLHT



22nd December, 2010



It is evident that landscapers, heads of institutions and garden managers are not sufficiently aware that one can landscape a garden with due regard for aesthetics, entirely with native flora. One need not have a fetish for native plants; one could opt for exotics, if there is indeed a scarcity in terms of diversity of life forms with visual appeal, in respect of native plants. However, as any Indian botanist and ecologist knows, this is not the case in respect of India's floral wealth, which has huge diversity in all its different bio-geographic zones.

This book is titled 'Secrets of Ethno Medicinal Gardens'. I believe this title is merely to provoke the reader to look more closely into Indian plant life. It is no secret that our country has a wide range of plant forms and groups viz; grasses, ferns, orchids, pteridophytes, gymnosperms and angiosperms which are available to anyone seeking to discover aesthetics and form in plant life.

The reader may wonder, why should one choose medicinal plants for gardening and landscaping? Firstly because, they are not exclusive. So far as the Indian mind is concerned "every plant is potentially medicinal" because it has properties (guna) and therefore biological action (karma). It is, however, declared to be medicinal when its properties and actions are actually discovered and used. The medicinal uses of about 60% of India's flora have already been found out by the ethnic communities and traditional physicians of India. That is why medicinal plants constitute such a large sub-sect of plant diversity, in all our eco-systems and are eminently suitable for landscaping because of their biological, cultural and aesthetic values.

This manual is a work of love and experience in gardening. Please enjoy it and use it - The secret of gardens is now yours.

Padmashri Darshan Shankar  
Advisor  
I-AIM

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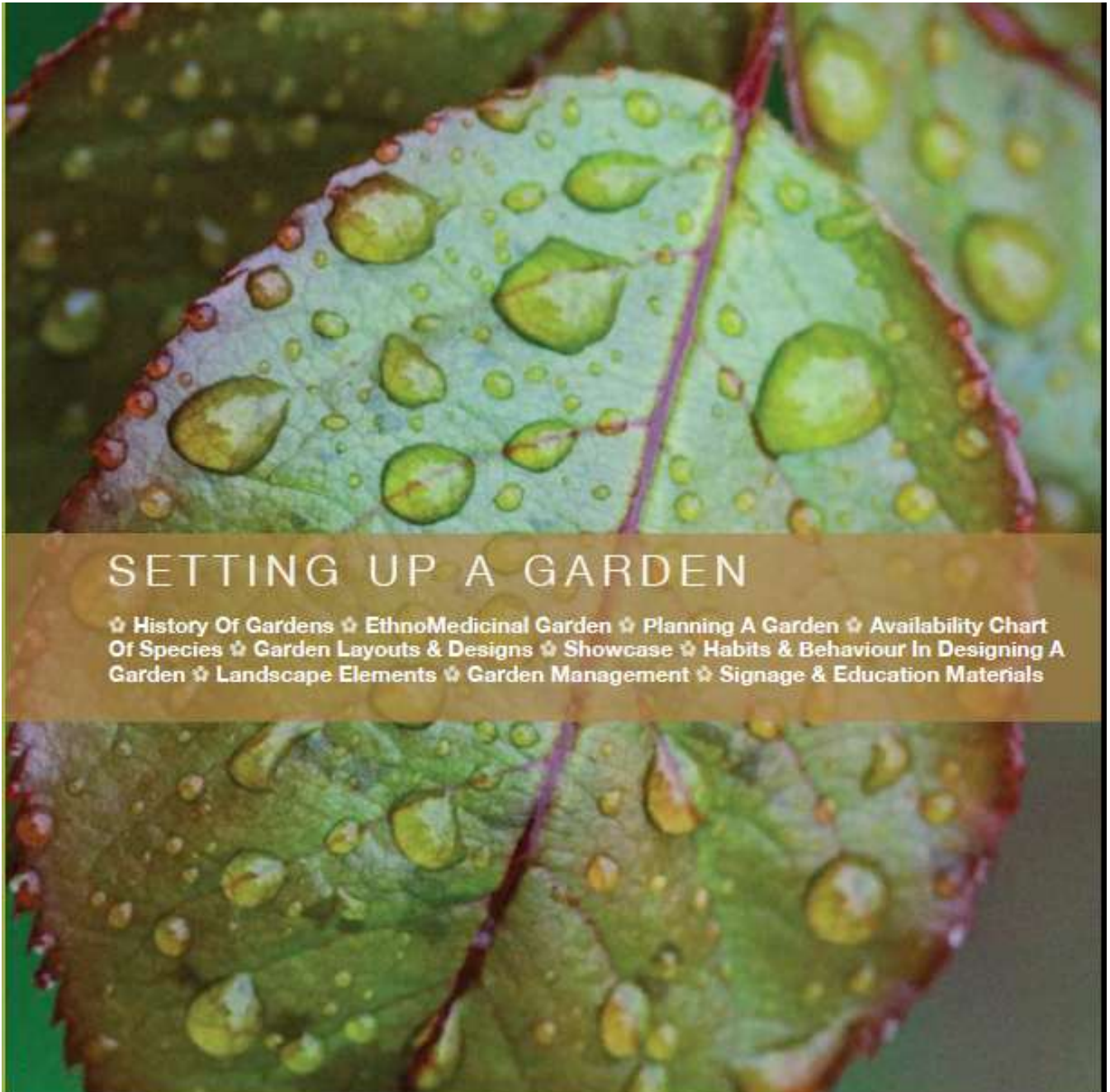
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Show me your garden  
and I shall tell you  
what you are

Alfred Austin





# SETTING UP A GARDEN

✧ History Of Gardens ✧ EthnoMedicinal Garden ✧ Planning A Garden ✧ Availability Chart Of Species ✧ Garden Layouts & Designs ✧ Showcase ✧ Habits & Behaviour In Designing A Garden ✧ Landscape Elements ✧ Garden Management ✧ Signage & Education Materials



# 1 | HISTORY OF GARDENS

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✦ An Introduction to the concept of gardens and for creating more useful gardens

Gardening has been popular in India from ancient times. Gardens were an indispensable feature in house and town planning. Incorporating various design forms and mechanisms and also combining scientific and artistic principles ensured integration of nature with everyday life in urban areas. Vedic and post-Vedic manuscripts on subjects like Vrikshayurveda, for example *Upavana Vinoda* give descriptions of beautiful gardens and also their maintenance.

Gardening is considered as an amenity of civilized life. The earliest gardens were grown for daily needs such as for vegetables, flowers, fruits, medicines and so on. Later gardening became a means of expressing style, social status, and often philosophy and religion. In India gardening has been practiced since the Vedic period. In the Rigveda mention is made on gardens that were dedicated to public use. The Ramayana and the Mahabharata describe several trees such as 'ashoka' (*Saraca asoca*), 'arjuna' (*Terminalia arjuna*), 'nagsesara' (*Mesua ferrea*), 'vatavriksha' (*Ficus benghalensis*), 'ashvatha' (*Ficus religiosa*), 'champak' (*Michelia champaca*), 'palasah' (*Butea monosperma*) and 'aragvaha' (*Cassia fistula*). The Ashokavana in Ramayana has been described as a sylvan grove with the 'saals' (*Shorea robusta*), 'ashoka' (*Saraca asoca*), 'bhavya' (possibly *Dillenia indica*, *Garcinia xanthochymus* or *Litsea chinensis*), 'champak' (*Michelia champaca*), 'uddalaka' (possibly *Bauhinia variegata*, *Cordia alliodora*, *C. wallichii* or *Paspalum scrobiculatum*), 'naagara' (possibly *Flacourtia cataphracta* or *Zingiber officinale*) and the mango (*Mangifera indica*). In fact, evidences of the Ashokavana still exist in a place called Nuwara Ela in Sri Lanka, where one can also see a temple dedicated to Sita, Rama and Lakshman. Vatsyayan's Kamasutra describes a typical house as having a garden. Further, it says, the mistress of the house is the caretaker of homestead gardens. She is required to procure seeds of vegetables and medicinal plants and sow them in the garden. It is also necessary for the garden to have plants with sweet-scented flowers like 'malika' and 'navamalika' (*Jasminum* spp.), beautiful flowers like 'kurantaka' (*Baneria* spp.) 'japa' (*Hibiscus rosa-sinensis*) and shrubs yielding fragrant roots and leaves like 'balaka' (possibly *Plectranthus vertiveroides* or *Valeriana hardwickii*) and 'usir' (*Vetiveria zizanioides*). The plants mentioned in these gardens possess high medicinal value and are used till today. However, physical evidences of these gardens have not survived from the above mentioned periods.

The earliest physical evidence of a garden has been reported from the Egyptian tomb paintings of 1500 BC. The tomb

paintings of Egypt depict lotus ponds surrounded by *Acacia* spp. and palms. The Egyptian Gardens were enclosed by walls, inside which they grew aromatic plants, flowering and fruiting trees, vineyards, flowering plants like roses, poppies, irises, daisies and cornflowers. In most of the religions, different trees were associated with different Gods. The earliest known gardens of French monasteries were essentially herbal gardens designed to grow healing plants that could be used both by the monks and by visitors to the monastery. From the above examples, it is evident that whichever the type of garden there was a point of utility besides the scenic beauty.

The modern gardens are quite different from the earlier ones as they are considered only as functional spaces for outdoor living. The utility value of gardens has been forgotten in the name of modernism. Although the modern gardens seemingly give more importance to style and design, it is to be noted that style or design can be compatible with the utility value to any garden. Focusing largely on exotic ornamental plants to build gardens can provide satisfaction only to the aesthetic sense! Native herbal plants, on the other hand, can satisfy both aesthetic and utility. Therefore, it is necessary to incorporate native medicinal species in the garden landscape. It can help us in rediscovering the rich cultural traditions underlying the original design of gardens.

Let us start thinking of creating more useful gardens!

Gardening requires lots  
of water - most of it in the  
form of perspiration

Lou Erickson

# 2 | ETHNOMEDICINAL GARDEN

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✦ ETHNOMEDICINAL GARDEN | NATIVE MEDICINAL PLANTS | EDUCATIONAL VALUE

What is EthnoMedicinal Garden?

EthnoMedicinal Garden (EMG) is a type of garden established by planting only medicinal plants that are used by the indigenous traditional systems of medicine. EMG differs from other botanical gardens in that it possesses only herbal plants.

Principles of planning, landscape elements and planting techniques are similar in both EMG and botanical gardens. The difficulty in establishing EMG is that most of the species used are unfamiliar wild plants and the identity and behaviour of these wild plants are known only to the field botanists, and not to the gardeners who work with conventional botanical gardens. Obviously, without knowing the identity and behaviour of plants one cannot plan to establish herbal gardens. Hence, there are constraints for a conventional gardener who wishes to establish EMG.

To address this issue, Foundation for Revitalisation of Local Health Traditions (FRLHT) has established EMG by planting about 1000 medicinal plant species as a replicable demonstration garden. Visiting the EMG established within the Campus of FRLHT will surely help any gardener to have knowledge about the basic layout designs, landscape elements, identity of species and behaviour of wild plants. Further, this Manual will also help the garden managers in planning, establishing and maintaining the traditional medicinal gardens by accommodating native herbal plants without voilisation.

#### BENEFITS OF PLANTING NATIVE MEDICINAL PLANTS

Landscapeing with native medicinal plants has several appealing factors. Native plants are those that evolved naturally in our country; therefore, these are well-adapted to the soil, moisture and climatic conditions. Hence they require less maintenance. Native plants, once established require no irrigation or fertilization and are resistant to most of the pests and diseases. By attracting pollinators such as butterflies, birds, bees, etc. (by providing food and shelter to them) native plants keep the ecosystem pure and healthy. There are plants like *Pongamia pinnata*, *Melia azedarach*, etc. which keep the environment pollution-free by absorbing the polluted air. Herbal gardens can also include greens, fruits and tubers that serve both as food and medicine, so that it can also contribute to the nutritional

needs of the family. There are specific species useful for enhancing the quality of drinking water. Medicinal plants in fresh form or with simple home-based processing can provide safe and effective solutions for common health complaints. Herbs are good for preventive health-care related to diabetes, dental hygiene, skin & hair care, memory enhancement and so on. The same plants useful for humans are also found to be effective for domesticated livestock and can even be used as bio-fertilizers and bio-pesticides. Planting native medicinal plants in the gardens also preserves part of our natural resources and health heritage. These medicinal plants not only give scenic beauty, but also give us better health and environment.

#### EDUCATIONAL VALUE

The EMG at FRLHT is an important educational tool to a wide assemblage of people. Students and also visitors in general visit the Garden to know about the different medicinal plants and their uses in various systems of medicine. They get to see the medicinal plants they have heard of but not seen earlier. It also helps them to identify the medicinal plants in their vicinity. Researchers from Indian Systems of Medicine (ISM) visit the Garden to learn about the habit, fruiting and flowering and other features of medicinal plants pertaining to their field of study. Sometimes, they also want a particular plant or raw drug identified. Many Natii Vaidyas or local healers visit the EMG at FRLHT for identification of medicinal plants and also to know about the medicinal uses of plants in other systems of medicine. Staff from the Forest Department come to FRLHT to undergo training on the medicinal uses of various plants grown in the Garden and also about their conservation importance. Identifying the medicinal plants also forms part of their training. Many professional gardeners and people from Community Based Organisations also visit the Garden at FRLHT. Their aim is to obtain training in growing medicinal plants and also their usage as landscape elements. Many organisations and individuals also approach us for authentic planting materials.



