



Indian Medicinal plants of conservation concern

MEDICINAL ORCHID WEALTH OF ARUNACHAL PRADESH

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The pages from human history indicate that, for over thousands of years in every continent, man has had a direct contact with this unique group of plants with a wide range of variability. There are innumerable stories of people being obsessed with the beauty of orchid flowers, attracted by their heavy perfume, or intrigued by the essences that can be extracted from them. The wild blooming orchids are no fewer majestic in beauty than many other cultivated flowers of commercial interest. They are ultimate in rarity, beauty and allure. Of late, they have become quite popular among professionals and

amateur orchid lovers for collection either as a hobby or an item of cut flower trade. But apart from their ornamental value, orchids evoke a special interest in us because of their distinctive uses in traditional medicines.

Like Roses, Lilies, and Anthuriums, Orchids are also a particular group of flowering plants belonging to family Orchidaceae. Orchids can be identified with their following floral characters;

- i) The presence of column (gynostemium)
- ii) The presence of pollinia, and
- iii) A modified petal called labellum (lip)

“The family of orchids, one of the most highly evolved of the entire plant kingdom, comprises over 30,000 individual

species, with new discoveries being made and described every year”.

About 1220 species are reported from India, while 750 species are found in North East India and about 550 species (45% of the country) are reported from Arunachal Pradesh alone. The orchids here are colorful, spectacular and some of them bear exotic names such as Sita-Pushpa and Draupadi-Pushpa. Legend goes around that Sita and Draupadi wore these orchids for ornamentation. Many of these orchids are rare, endangered and highly ornamental with long

lasting flower qualities. Around 150 species of orchids here are ornamental and commercially important.

Historical Account Of Orchids

The word ‘orchid’ originated from the Greek word ‘Orchis’ which literally means ‘Testicle’. It was Theophrastus who first used the Greek word ‘Orchis’ to indicate the particular group of plants whose roots, dried and chopped, were used in the traditional pharmacopoeia of Greece and neighboring Asia minor as antidepressants and stimulants, and even today in some rural

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areas of these countries “salep”, a nutritious drink prepared from the dried tubers of certain orchids, is found commonly. It was not until the mid eighteenth century that the name was applied to the whole family of orchids in Linnaeus’s, *Species plantarum*, which marked the beginning of modern plant taxonomy, where Linnaeus described orchids as two semi-globular underground tubers, placed side-by-side, resembling human testicles.

Besides Theophrastus and Linnaeus, many other people were interested in orchids principally as medicinal plants, and this is testified by references in the medical books and herbals of men such as Dioscorides (first century A. D.), Otto Brunfels of Strasbourg (C. 1488-1534), Leonhard Fuchs (1501-66) and John Gerard (1542-1612) In China some 2,500 years ago, Confucius commended orchids for their wondrous

beauty and scent, and the first book on the cultivation of orchids, giving descriptions of species and varieties, was probably written in Chinese in around the year A.D. 1000.

In ancient times early Aztec people used to flavor a traditional drink made from cocoa beans and the fruit of the tropical climbing orchid genus *Vanilla*. In the beginning of early nineteenth century, the sudden surge of interest in the collection of tropical orchids led to the plants frequently been featured in literature, in fiction, as well as in science.

Medicinal Orchids Wealth of Arunachal Pradesh

Arunachal Pradesh, meaning 'Abode of the Sun's rays' is the first to greet sunrise in the country. Mother Nature has endowed it with unsurpassed beauty - lofty snow-capped peaks and alpine forests in the north; verdant undulating hills in the south;

lush green rain forests in the foothills and a vast expanse of plateaus in the middle. The varied climate and the wide altitudinal range combine to give it a wealth of flora and fauna. And the rich and colorful orchids of Arunachal Pradesh find a place of pride.

The richness of orchids in Arunachal Pradesh may be attributed to the congenial climatic conditions like high rainfall, high atmospheric humidity throughout the year and vast stretch of forest cover at tropical, subtropical, temperate and alpine zones. Medicinal orchids prefer a tropical climate though some of them seem to grow under extreme conditions too. A humid climate, temperature around 27 degrees and rainfall of 150 to 250 cm are ideal requirements for wild orchids. The continuity of the forest vegetation in Arunachal Pradesh with that of Sikkim, Bhutan, Tibet, China

Medicinal Orchids in the Past: 0001 - 1579 A.D. (Some Interesting Facts)

□ 0040 AD: Dioscorides - (0040-0090) - Greek physician in his " De Materia Medica "; possibly the first written evidence of orchids outside the Orient, commented on the usefulness of orchids as a determinant of the sex of offspring.

□ 1368/1644: Ming Dynasty - many references to the use of orchids as herbs: Cymbidium used for Rheumatism, neuralgia and venereal diseases, Gomsea for stomach upsets, Crispa for diarrhoea, fever, boils, abcess. Vanilla was used for flavouring.

□ 1427: *Vanilla planifolia* - fruits used to flavour "chocolat" a Mexican drink made from cacao and honey.

□ 1488-1534: Otto Brunfels of Strasbourg referred to orchids as herbal remedies.

□ 1501-66: Leonard Fuchs – Physician, used orchids as medicinal plants.

□ 1542-1612: John Gerard – Physician, made use of orchid extracts in medicine.

□ 1552: *Vanilla* - illustrated in Aztec Herbal - "The Badianus MS".

□ 1552: Orchids in Medicine - The first American book on medicinal plants "Badiano Codex" by Martin de la Cruz - Aztec Physician, referred to *Vanilla planifolia* as a useful herb for the treatment of: hysteria, fevers, impotence, rheumatism, and to increase the energy of muscular systems: *Encyclia citrina* used by natives on infected wounds, coughs, sunstroke, and dysentery. Some other medicinal orchids reported were *Laelia autumnalis*, *Stanhopea hernandezii*, *Arpophyllum spicatum*, *Bletia catenulate*, *Cranichis speciosa*, *Epidendrum pastoris* and *Ophrys apifera* .

□ 1579: *Orchis odorata* - William Langham described the power of this species in his "Garden of Health".

and Burma is further facilitating the transmigration of Orchid species.

Out of the 550 species of orchids reported so far from Arunachal Pradesh, about 370 are epiphytes (which grow naturally on trees), 160 are autophytic terrestrials (ground orchids which bear green leaves and perform photosynthesis), and about 20 are the saprophytes (which draw nourishment from the decayed wood). It may be noted that, one new genus viz *India A.N.Rao* and about 40 new species of orchids are discovered so far from Arunachal Pradesh. Some of the new species are *Sarcophyphus arunachalensis*, *Eria arunachalensis*, *India arunachalensis*, *Biermannia jainiana*, *Gastrodia arunachalensis*, *Epiogium sessanum*, *Cheirostylis gunnarii* etc.

Further, it is also interesting to note that out of 550 species, nearly 300 species are rare, and about 150 are endangered and ornamental whereas very few i.e., about 37 are of medicinal importance. Among the endangered ones, 6 species viz., *Paphiopedilum fairieanum*, *Paph. Venustum*, *Paph. wardii*, *Vanda coerulea* and *Renanthena imschootiana* belong to the Appendix-I list of CITES & IUCN (International union for Conservation of natural species of Flora and fauna). It is quite interesting to note that *Paphiopedilum fairieanum* is an endemic species of Arunachal Pradesh, Sikkim and Bhutan and is also known as 'The Lost Lady's slipper orchid' due to its complete disappearance from the natural habitat during 1900-1905.

Out of the 37 species of medicinal orchids of Arunachal Pradesh, the species like *Aerides multiflorum*, *Aerides odoratum*, *Aerides rosea*, *Rhynchosstylis retusa*, *Vanda coerulea*, *Phaius tarkervillae*, *Calanthe triplicate*, *Calanthe sylvatica*, *Dendrobium densiflorum*, *Dendrobium nobile*, *Dendrobium chrysanthum*, *Pleione maculata*, *Corymborkis veratrifolia* have also ornamental value due to their beautiful and fragrant flowers. The jewel orchids viz., *Anoectochilus regalis* and *Goodyera schlectandaliana* are highly sought after

foliage ornamentals due to beautiful colour and lattice like venation on their leaves. *Rhynchosstylis retusa* is recognized as the state flower of Arunachal Pradesh.

Orchid Trade Industry

Arunachal Pradesh having a variety of ornamental orchids has great potentials in orchid trade, which consists of mainly plant and cut flowers. Different ornamental orchid plants both species and hybrids are sold in market. In fact, orchid growing can be developed as a cottage industry in Arunachal Pradesh. Orchids are an endangered plant group. Hence, orchid trade is regulated under the Convention of International Trade for Endangered Species (CITES).

Since India is signatory to this convention, Orchid trade attracts the Wild Life Protection Act (1972) of government of India amended in 1992. Accordingly, Orchids have been brought under Schedule VI of Wild Life Protection Act and the trade is regulated as per Rule.

CONSERVATION EFFORTS

Orchids are quite rich in their medicinal value and hence have been harvested indiscriminately. The need of the hour is to create awareness and a conservation strategy to save these wonder plants. The orchids of Arunachal Pradesh have a tremendous potential for economic upliftment of the State and sustainable development, however need appropriate management practices. Losing out to human greed with wanton destruction of forests, orchids of Arunachal Pradesh are struggling to survive. Degradation of the environment over the years has resulted in disappearance of many species. The orchids also serve as ecological indicators. Their disappearance indicates a change in the quality of soil and in the climate.

Steps to save these exotica have now been taken by setting up an Orchid Research and Development Centre (ORDC) in West Kameng district. This

centre has successfully grown at least 1,50,000 orchid plants collected from different terrains of the hill state. The main aims and objectives of the center are Conservation of Native Orchids, research on different aspects of orchidology and commercialization of artificially propagated orchids by involving local tribal farmers. The orchidologists at the center have developed scientific methods of multiplication of these rare plants in a modern laboratory.

As a part of in situ conservation, two orchid conservation sanctuaries have been established at Sessa and Dirang in West Kameng district. The Orchid Sanctuary at Sessa harbours about 200 species of orchids including 6 new species and 7 saprophytic orchids besides several rare and endangered orchids of North East India.

Under ex-situ conservation program, a few orchids have been rescued from the degraded forest areas, brought under cultivation and after their recovery have been reintroduced into safer forest areas with suitable climatic and natural habitat conditions. Further, through biotechnological means viz., seed and tissue culture techniques, native rare and endangered orchid species like *Paphiopedilums*, *Vandas*, *Dendrobiums* and *Cymbidiums* have been propagated on large scale for conservation by means of rehabilitation and for commercialization purposes.

To conclude, one must say that nature has been extremely kind in endowing this beautiful state of Arunachal Pradesh with the colourful and spectacular orchids. These nature's jewels are commercially important not only for their ornamental value, but also for their wide and extensive medicinal uses. Realising the precarious situation in all the orchid habitats within the State and also across the country, efforts are being carried out for creating sufficient awareness amongst the native people. Time is not far when the economically backward section of the society can also take up orchid cultivation as an alternative source of their income.

S.NO	NAME OF SPECIES	USES	DISTRIBUTION IN ARUN-ACHAL PRADESH
1.	<i>Acampe papillosa</i>	Root is employed under the name Rasna, used for rheumatism, sciatica, neuralgia, syphyllis and uterine diseases.	Epiphytic, Commonly found
2.	<i>Aerides odorata</i>	The ground fruit used for healing wounds. Juice of leaves to heal boils in ears and nose.	Epiphytic, Scattered in distribution.
3.	<i>Anoectochilus regalis</i>	Stem and leaves are one of the ingredients in certain medicinal oils.	Jewel orchid, Terrestrial, Rare.
4.	<i>Calantbe sylvatica</i>	Flowers used to stop nose bleeding	Terrestrial, Scattered
5.	<i>Calantbe triplicata</i>	Roots are ingredient of local medicine to treat swollen hands; with other ingredients roots chewed for diarrhea, Flowers as a painkiller in caries, Pseudobulbs as a masticatory, gastrointestinal disorders.	Terrestrial, Scattered
6.	<i>Cephalanthera longifolia</i>	Roots and Rhizome as a tonic	Terrestrial, Scattered
7.	<i>Corymborkis veratrifolia</i>	Fresh leaf juice as an emetic to cure fever in children	Terrestrial, Rare.
8.	<i>Crepidium acuminatum</i>	Bulbous stem used in drug Rishabhak of Ashtavarga for strength, enhances sperm formation, and prevents diseases borne by Vaata, pitta and kapha.	Terrestrial, Scattered
9.	<i>Cremastra appendiculata</i>	Roots paste used for toothache and as emollient. Tuber used for abscesses, scrofula, and freckles and as an antidote to snakebite.	Terrestrial, Endangered due to habitat disturbance.
10.	<i>Cymbidium aloifolium</i>	Pounding the plant with ginger and extracting the mixture with water is used to induce vomiting and diarrhea, to cure chronic illness, weakness of the eyes, vertigo and paralysis. Used as an ingredient of oil to cure benign and malignant tumors.	Epiphytic, Common
11.	<i>Dendrobium nobile</i>	Fresh and dried stems used in preparation of Chinese drug Shih-hu for longevity and as an aphrodisiac, stomachic, analgesic.	Lithiphytic, Scattered
12.	<i>Dendrobium jenkinsii</i>	Fresh and dried stems used in preparation of Chinese drug Shih-hu	Epiphytic, Scattered
13.	<i>Dienia muscifera</i>	Decoction of tuber used as tonic to strengthen kidneys	Terrestrial, Rare, endangered due to habitat destruction.
14.	<i>Echioglossum williamsoni</i>	Terete Leaf juice applied by Monpa tribe to cure swellings of hands and legs and bone fractures.	Epiphytic Scattered
15.	<i>Eria pannea</i>	Roots and leaves decoction used in bathing in cases of ague	Epiphytic, Scattered
16.	<i>Goodyera repens</i>	Roots and leaves for female disorders, stomach and bladder diseases, chewed leaves applied to reptile bites. Mashed leaves prevent rash in infants	Terrestrial, Rare
17.	<i>Goodyera schlectandaliana</i>	Tincture of the plant in rice wine is used as a tonic for internal injuries and to improve circulation	Terrestrial, in Kameng district common
18.	<i>Gymnadenia orchidis</i>	Salep made from digitate tubers used as aphrodisiac, tonic	Terrestrial, Scattered, depleting
19.	<i>Phaius tancarvilleae</i>	Paste of Pseudobulbs is used to heal swellings of hands and legs, poultice to soothe pain of abscess.	Terrestrial, Scattered
20.	<i>Pholidota chinensis</i>	Aqueous extract of pseudobulbs is taken for scrofula, feverish stomachache, and toothache. Tincture is used for internal bleeding, hemorrhage, asthmatic cough, tuberculosis, and dysentery.	Epiphytic, Rare
21.	<i>Pholidota imbricata</i>	Pseudobulbs finely macerated in mustard oil and applied on joints for rheumatic pains.	Epiphytic, Common

22.	<i>Pleione maculata</i>	Pseudobulbs used in liver complaints and stomachache.	Epiphytic, Rare, Endangered
23.	<i>Ponerorchis chusua</i>	Tubers used for diarrhoea, dysentery and chronic fever	Terrestrial, Rare.
24.	<i>Rhynchostylis retusa</i>	Roots (Rasna) for rheumatism. Plant used against Asthma, Tuberculosis, nervous twitchings, cramps, infantile epilepsy, vertigo, palpitation, kidney stone, and menstrual disorders.	Epiphytic, Common
25.	<i>Satyrium nepalense</i>	Tubers eaten by Monpa tribe for Malaria, dysentery, also aphrodisiac	Terrestrial, Scattered
26.	<i>Spathoglottis plicata</i>	Decoction of the boiled plant used for rheumatism and used in hot as a foment.	Terrestrial, Scattered
27.	<i>Tropidia curculioides</i>	Decoction of plant given for cold stage of malaria, decoction of boiled roots given for diarrhoea	Terrestrial, Endangered
28.	<i>Vanda corulea</i>	Leaf juice for diarrhoea, dysentery, external application for skin diseases	Epiphytic, Endangered
29.	<i>Arundina graminifolia</i>	Scrapped bulbous stem applied on heels to treat cracks.	Terrestrial, Common
30.	<i>Dendrobium densiflorum</i>	Leaves crushed to paste with salt and applied on fractured area to set bone.	Epiphytic, Rare
31.	<i>Cymbidium bookerianum</i>	Seeds applied on cuts and injuries as hemostatic	Epiphytic, Rare.

SOME MEDICINAL ORCHIDS OF WESTERN GHATS

Aerides crispum - Its plants are powdered, boiled in neem oil, filtered, 2-3 drops of oil are put into the ear once at night as a cure for ear-ache.

Acampe praemorsa - Roots used for treating rheumatism.

Coelogyne ovalis- aptly called as Jeevanti, and the whole plant is used in Western and Southern parts of India for cough, urinary infections and eye disorders.

Limodorum sapthulatum- flowers commonly called Swarnapushpa, and flowers of *Habenaria diphylla*, commonly called Jeevahi Purusharatna are used to cure asthma.

Habenaria species- are ground orchids, used in Siddha and Vriddhi tonics to treat unconsciousness and as blood purifiers. *H. acuminata* is used very much in Karnataka as a tonic.

Dendrobium ovatum- Juice obtained by hand crushing the stems is used on patients suffering from constipation and stomachache.

Eulophia nuda- (Amarkana in Sanskrit) is a ground orchid and used as an appetiser and for treating tumours and bronchitis.

Flickingeria nodosa- ('Purusharatna' in Kannada, and 'Jiwanti' in Ayurveda). This orchid is used to treat asthma, bronchitis, throat infections, etc.

Malaxis rheedei- a ground orchid, and is used as a tonic. It also forms one of the ingredients of the important Ayurvedic drug known as 'Ashtavarga', which has immense therapeutic value.

Zeuxine strateumatica- a terrestrial orchid and the tubers are used as a tonic in combination with the roots of *Cymbidium aloifolium* in Uttara Kannada district.

Nervilia orogaana- helps to cure eye infections.

Different orchids are used in the treatment of boils and pimples, disorders of bladder and kidneys, gonorrhoea, burns, diarrhoea and dysentery, stones in urinary tract, muscle wasting, and blood disorders.

First Aid in your Kitchen

Dr U. G. Geeta

Spices are generally understood to enhance the taste of food but have we ever noticed their medicinal value!

The use of turmeric powder for the faster healing of wounds and the prevention of infection from organisms is popularly known.

Here are a few other simple and exciting recipes for some of common ailments. You will be surprised to know that all are used as spices in the preparation of food. There is first aid in your kitchen itself.

1. Tvak

Cinnamon, Daalchini
Cinnamomum zeylanicum

- a) A small piece chewed after food is good for digestion. It also relieves nausea.
- a) The application of paste (on the forehead), prepared by rubbing cinnamon on a stone slab with a little water, helps relieve headache.

- a) Gargling with its decoction (after brushing cleanses the mouth, prevents bad breath and helps keep the teeth strong.

- a) Its decoction is also very effective in getting relieved of cough, cold and chest congestion (with white coloured mucus/sputum).

Dosage-40ml (approximately three tablespoons), thrice daily, for 5 to 6 days

2. Maricha

Black pepper, kaali mirch
Piper nigrum

- a) Its fine powder rubbed over teeth helps in relieving pain due to dental caries holding a mouthful of its decoction for a minute or two also helps.

- a) Pills made of fine powder of black pepper with little jaggery (quality of jaggery should be enough to mix the pepper powder and make pills of it) chewed one hour before food, increases the appetite.

Dosage—One pill (made of 1gm fine powder of pepper with a little jaggery), twice a day, for 4-5 days.

- a) Half to one gram of black pepper powder consumed after food, with a glass of buttermilk and salt to taste, relieves from flatulence - due to indigestion or after heavy meals

3. Ela

Cardamom, Ilaichi
Elettaria cardamomum

- a) Cold infusion made of fine powder of cardamom and water consumed with sugar candy to taste helps in relief from morbid thirst.

Dosage-50 to 60ml thrice a day for 3 to 4 days.

- b) Fine powder of cardamom licked with a little honey relieves from nausea and vomiting due to long-distance traveling or indigestion.

Dosage-5 gm three to four times a day.

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4. Jiraka

Cumin seed, Jeera
Cuminum cyminum

- a) Decoction made of cumin seeds is helpful in relieve from diarrhea caused by indigestion.

Dosage-40ml (approximately 3 table-spoon), four to five times a day, for 3 days.

- b) Fine powder of cumin seeds licked with a little honey helps relieve stomach-ache ('biting' kind of sensation in stomach) due to worms infestation.

Dosage-5gms three to four times a day.

Note: Before making a fine powder of cumin seeds, roast it under a mild fire till you start getting a light aroma.

5. Methika

Fenugreek seeds, methi
Trigonella foenum-graecum

- a) Fine powder of its seeds consumed with 50 to 60ml of buttermilk (approximately 4 tbsp) helps arrest diarrhoea

Dosage-1 to 3 gms three to four times a day.

Note: Before making a fine powder of fenugreek seeds, roast it under a mild fire till you start getting its light aroma.

- a) Decoction made of roasted seeds and consumed with a little milk helps relieve indigestion.

Dosage-20ml (approximately 2 tbsp) twice a day for 3 days.

6. Sarshapa

Mustard seeds, sarsoun
Brassica campestris Linn.var,sarson prain

- a) The application of paste prepared of its seeds with a little milk, on the face and body enhances complexion.

- a) The massaging of warm mustard seed oil all over the body helps relieve from body pain due to stress.

7. Mishreya

Fennel,Sount
Foeniculum vulgare mill

- a) Fine powder made of roasted fennel licked with a little honey helps in relieving the "squeezing" type of pain in the stomach just before faecal defecation.

Dosage-5gms thrice a day for 3 days.

8. Ajamoda

Omam, Ajamod
Carum roxburghianum (DC) craib

- a) Fine powder or decoction made of its seeds is helpful in relieving the "biting" kind of stomach ache due to a worms infestation. Also, it is useful in relieving cough, cold and chest congestion (with white coloured mucus/sputum).

Dosage-i. Fine powder 1 to 3 gms with little honey for 3 days.

ii. Decoction 20ml for 3 days.

9. Upakunchika

Small fennel, Kalounji
Nigella sativa Linn

- a) A fine powder of its roasted seeds licked with a little honey one hour before food increases one's appetite and relieves flatulence.

Dosage-1 to 3 gms twice a day for 3 days.

Standard method of preparation of:

1. Fine powder:

The well-dried material should be crushed to make a fine powder and sieved through a fine cloth.

2. Paste:

Rub the material - if dry\crush the material and if wet rub it on a stone slab with a little water (or the prescribed liquid.)

3. Decoction:

Wash the material prescribed to remove dirt. Chop it into pieces and pound well. Boil 1/2 the cup of material (1 cup=150 ml) in 4 cups of water and reduce to 1 cup. If the prescribed material is dried, then powder it coarsely and boil 1 cup of the material in 16 cups of water and reduce it to 1 cup. Filter it and use.

4. Cold infusion:

1 part of finely powdered ingredients is added in 10 parts of water in an earthen vessel for a night. Next morning is sieved through a clean cloth.

Important note:

For serious and long-standing problems, please do not try self-diagnosis and attempt self-treatment. Do not exceed any dosages recommended. Always consult your doctor if symptoms persist. If already under medication for any ailment, please seek the physician's advice before using the above-mentioned remedies. Take care to correctly identify the plants/plant material. The effect of the remedies could vary based on the individual's biological activities and severity of a chronic condition, as well as the age of the patient.

News Headlines

Weeds can weed out most of our ailments!

A University of Florida (UF) research has revealed that unwanted and lowly weeds are sometimes more effective than herbs in preventing and curing of a host of diseases.

"If I had one place to go to find medicinal plants, it wouldn't be the forest. There are probably hundreds of weeds growing right outside people's doors they could use," said John Richard Stepp, a UF anthropologist and lead author of the study.

Stepp combed through scientific journals and studies to determine which drugs on pharmacy shelves come from plants as opposed to those synthesized in a laboratory. Stepp discovered that though only about three percent of the world's quarter of a million plant spe-

cies are weeds, they make up over a third of the 101 plant species that are used in pharmaceuticals.

He said that weeds have a short shelf life, are herbaceous and fast-growing plants that sprout on the outskirts of jungles and may contain healing properties.

The world's best-known medicinal weed is the poppy, from which morphine is derived. Scopolamine, an important drug for treating motion sickness, also is weed-based, as are the cancer medicines Vinblastine, for Hodgkin's disease, and Vincristin, for childhood leukemia.

"With all the emphasis on the tropical rain forests, an entire area is being missed in natural products research. These findings suggest that we need to broaden our horizons if we're going to

search for new drugs from plants," said Stepp.

Stepp said that the idea for his study surfaced while he was working in the southwestern Mexican highland state of Chiapas. He discovered Mayan residents using weeds to tackle all sorts of daily illnesses, such as colds, upset stomachs, skin rashes, aches and sprains.

"The realization that medicinal plants are readily available in a living pharmacy right outside the door and along the sides of trails rather than deep in the forest could lead governments to encourage and promote traditional medicinal practices. They are readily available, cost nothing to gather and are often more effective," added Stepp.

(NewKerala.com)
<http://news.newkerala.com/>

Herbal wealth of a nation

The development of manufacturing of indigenous medicines Narayan Das Prajapati doesn't exactly fit the mould of a corporate honcho. But there's no stopping him when he talks on balance sheets and how the medicinal and aromatic crop sector in India can develop.

And Prajapathi didn't need examples from China or Europe to convince delegates at the meet on medicinal, aromatic and herbal crops (MACs), organised by the National Bank for Agriculture and Rural Development (NABARD) on the importance of this sector. The man from Rajasthan himself is a big biz story. He alone will export MACs like isabgul and henna worth Rs 5 crore this year.

"There was a little support from the government when I started 20 years ago. But now it's different," says the director of the central government-run National Medicinal Plant

Board (NMPB). Others could take a cue from Prajapati.

India with its 10 bio-geographic and 15 agro-climatic zones, is among the biggest repositories of herbal wealth in the world. The interest in the MACs has increased to 60 per cent since 1989 with the current growth rate of 15 per cent annually. Being a developmental bank in agricultural and rural sector, NABARD has designed policies that are useful for farmers. Under the promotional policy, one gets a chance to know all about medicinal aromatic plants (MAPS) and crops. The credit (commercial) policy revolves around crop suitability and differentiates between MAPs and MACs. The NABARD and financial institutions have now shortlisted nearly 100 crops out of 1,800 MAPs found in India.

And here starts the role of farmer. First he needs to approach the financial institution/banks for economic support. "The

News Headlines

banks across the country have been intimidated by NABARD on this,” says NMPB chief R B S Rawat.

One may apply for commercial scheme as well. This is aimed at production/cultivation of MACs on large scale. NGOs, government agencies and cooperatives are eligible. The project proposals with buyback mechanism on potential crops or other species with assured market are preferred. The MACs like isabgul, senna, castor, mentha are being financed in many states under crop loan and through conventional methods like the Kisan Credit Card. With around 10 lakh hectares under cultivation, this sector needs a regular investment to the tune of Rs 900-1000 crore, says a NABARD estimate.

The corporates in herbal industry who procure raw material from these farmers, play an important role in commercialising the sector through contract farming.

P S S Ganesan, whose firm exports around 20 per cent of the Indian produce, however, points out a flaw in the banking sector. “The banks have stopped giving farmers in South India loans against some crops. They want guarantee hence I’m here with a representation to NABARD,” says the owner of PSS Ganesan and Sons from Siptot, Tuticorin.

The marketing part is taken care of by the buyers. “The raw materials are collected from the fields at a good price,” says Praful Dholakia, Assistant General Manager of NABARD from Navsari (Gujarat).

Exporter-importer from Georgia Jawahar Kapadia, however, sounds a word of caution for the India cultivators. “You must have quality crops and efficient service.”

(The Indian Express
http://www.indianexpress.com/full_story.php?content_id=47328)

Bio-diversity park at Mughal Gardens opens

New Delhi, February 26: The bio-diversity park at the Mughal Gardens in Rashtrapati Bhawan, which was inaugurated by President A.P.J. Abdul Kalam in October last year, will open to the public tomorrow.

The President’s press secretary S.M. Khan said, the park, which is spread over an area of 10 acres, is being developed in a phased manner and will be used as a gene bank of rare and endangered medicinal plants and to educate people and create awareness about the medicinal wealth of the country.

“He (the President) called farmers from all over the country to tell them how they can promote herbal crops,” the press secretary added.

The bio-diversity or herbal gardens have various plants with medicinal values like Brahmi, Kalmegha and Aloe Vera. “It aims to motivate farmers to grow herbal crops, specially between rabi and kharif crops,” he said.

The park is divided into two parts and it is only the first part which will be open tomorrow. The other portion, which is still under construction, is further divided into four parts comprising Ayurveda plants for children, women, the elderly and animals.

Displays of drift woods, hanging baskets with foliage and varieties of roses are also among the new additions to the garden, according to superintendent of the Mughal Gardens Zile Ram.

“Since he (Kalam) has assumed office, he has been insistent that we beautify the garden still further,” he said adding, “his particular favourites are fragrant roses.”

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is not aware of botanical names is left at much loss.

The Encyclopedia of Indian Medicinal Plants is literally a compilation based on research materials drawn from sources like CCRAS, CCRUM, CDRI, CIMAP, CSIR and ICMR Publications, not to forget The Wealth of India. The book, which spreads over 520 pages, makes just a cursory glance at classical use of more than two hundred and fifty herbs. The author has safely avoided all ayurvedic pharmacological references of Rasa, Guna, Virya, Vipaka etc., lest he contradict his own view.

Neither does he strike a right balance to explain classical use of drugs in light of active principles of pharmacology as he has claimed at the beginning of the book. Though care has been taken to quote rational western medicine, one wonders why another reputed Indian System of Medicine -Siddha, has been neglected except for a few occasional references. He has faltered on many occasions while trying to establish the identity of a drug. Myristica fragrans is one such plant which has been erroneously identified.

Use of poisonous drugs after due detoxification has always been in vogue in Ayurveda. For instance Semecarpus anacardium (Bhallataka), which is an irritant poison, is duly detoxified by rubbing the fruits (after removing the stalk) in brick powder for seven days. Further processing by washing it in water followed by boiling the fruits in milk renders it fit for therapeutic use.

The author despite quoting certain drugs to be toxic does not throw much light on their purification techniques. It is surprising to notice why such a pharmaceutically important feature of poisonous drugs has been omitted. Details of any work on such purification methods would have been useful.

The section on Botany is completely devoid of any details on the habit, morphology, and phenology of the medicinal plants. The reader is left to

figure out on his own if the plant were an herb, shrub or a tree! The section also lacks proper trade information. One fails to understand why such essential details have been omitted.

Description of active principles and pharmacology is a mere compilation of previous works from reputed institutes and has been kept short.

Use in Homeopathy and occasional Chinese herbal references though curtailed, are a refreshing change. Yet the work serves just as a secondary reference for Ayurvedists and practitioners of other codified systems of Indian medicine. The various appendices given at the end act as a quick reference for academically oriented readers. A colorful cover page and reader friendly typeset are the only solace.

Needless to say, it is far fetched from being termed as an Encyclopedia especially on Indian Medicinal plants

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MEDICINAL PLANTS**
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