BioThink, Vol -2, Issue -1
ISSN: 3048-7943

Some important medicinal plants in India: Economic Perspective

Dr. ANIL KUMAR[1], DR. NAISERGIK DEEPIKA KHANNA[2]

[1] Assistant Professor Department of Chemistry, Govt. Degree College, Nadaun, Hamirpur H.P India
[2]Assistant Professor, Department of Chemistry, Government College, Hamirpur[1] (H.P)
Correspondence : naisergikdeepikakhanna@gmail.com, anilthakur.iitd@gmail.com

Introduction

Using plants to cure human ailments is as old as human civilization. Indian system of medicine viz. Ayurveda, Unani and Sidha employ a great variety of plants in their curative and preventive preparations. Renaissance of recent interest in the herbals as source of cosmetics, neutraceuticals, toners, rejuvenators, detoxifiers and anti aging compounds has opened up new vistas of research in their botany, cultivation, chemistry and clinical standardization. These plants are also being prospected for developing drugs to cure such diseases, for which no satisfactory control has been found in allopathy. Some of such diseases are brain related disorders, cardiovascular diseases, cancer, AIDS, arthritis, bronchial asthma, diabetes etc. The increasing use of herbs is also reflected in their rising trade: the present global herbal market of about US$62 billion is growing 5% annually and may touch $5 trillion by 2050. Indian share in the whole trade is just 2% against our immediate neighbour China having a lion's share of33%. We export nearly Rs. 300 crores worth of herbals from annual production though their domestic trade is of Rs. 4000 crores.

The medicinal uses of different plants described in this bulletin are compiled from a large number of books and publications mentioned at the end. Besides, these have been supplemented also by the ethno botanical data collected by authors in the past 15 years. Since these uses have not been validated clinically, it is important that using any of the plant for any health/disorder or disease should be under the strict supervision of qualified and practicing medical doctor in Ayurveda / Unani / Sidha or Allopathy system. Authors and the Institution, i.e. CAZRI win not be responsible for any ill effects/side effects or damages/losses of any type by way of use of these plants which is only and only at the user's risk. Further, in view of widely fluctuating market prices of herbals, the trading information is only indicative and not final. [n fact prevalent market cost at the time of trading should be considered final.

Abrus precatorius Linn. (Fabaceae)

It is a perennial twining climber on hedges particularly on hills in most parts of India. It has multiple branches. Leaf has leaflets 10-20 pairs,

oblong, obtuse and hairy below. Flowers pink or white. Pods 3-5 seeded oblong turgid, beaked and pubescent. Seeds 3-6 scarlet red with black spot around the hilum, shining and smooth. Floweling and fruiting from October to March.

Part used: Root, Leaf and Seed

Usage: The root, a substitute for liquorice in coughs and catarrhal affections is diuretic, tonic and emetic. The decoction of roots is used to cure leucorrhoea. Leaves paste is applied on wounds and painful swellings. Decoction of leaves is used for cough, cold and hoarseness. Seeds are used as purgative, emetic, and aphrodisiac and also in nervous disorders. Seed paste is used for baldness, dandruff and other hair and skin diseases.

Agrotechniques : No specific agro technique is available as it is a commonly occurring weed. However, it can be propagated through seed/stem cuttings. Mature seeds can be collected and sold @ Rs. 40/kg.

Ahutilon indicum (L.) Sweet (Malvaceae)

Common in waste places throughout hotter parts of India, it is a hoary tomentose perennial small shrub. Leaves velvety on both sides, cordate with toothed margin. Flowers golden yellow. Fruit subglobose and depressed in the center. Seeds brownish black, reinifom1 with rough surface. Flowering and fruiting in October to January.

Part used: Whole plant

Usage: A febrifuge, anthelmintic, anti-inflammatory, diuretic, aprnodisiaic and demulcent, its decoction is used to cure gonorrhoea. A known antidote for the scorpion bite. The extract of leaves is applied locally to boils and ulcers and as a fomentation to painful palts. Root infusion is used as a nerve tonic and antipyretic. Powdered flowers are used in cough. The infusion of seed is a cooling drink.

Agrotechniques : No specific agrotechnique available as it is collected from the wild. Plant prefers hot and humid climate and can be propagated through seeds/ shoot cuttings. Seeds sold @ Rs. 20 / kg; Bark @ Rs. 10 /kg

Acacia nilotica (L.) Del. Sub Sps. *indica* (Benth.) Brehan (Mimosaceae)

Throughout the area it is common on open grounds. Now extensively planted on wastelands in the drier parts. It is a medium sized evergreen tree. Stem has black to dark brown longitudinally fissured bark,Leaves bipinnate with whitish straight stipular spines. Flowers golden yellow in globose heads. Pods compressed, moniliform and constricted between seeds. Seeds black brown, smooth, compressed and suborbicular. Flowering and fruiting in March to May.

Part used: Gum, Leaf, Bark and Pod

Usages: Gum is used to prepare 'Laddus', a sweet dish which is used after delievery as tonic for general health. The decoction of leaves and

bark is used to cure toothache and sore throat. Pod decoction is used in the treatment of urinogenital diseases. Leaves useful for treating bronchitis, piles and eye diseases. Leaf paste applied over pimples, blisters and boils. The twigs are used as tooth brushes. Bark paste is applied on fractured bone for early recovery.

Agrotechnique : Propagated through seeds, it grows well on deep, loam to clay loam soils. Irrigation at regular intervals is needed in first year of plantation. Weeding as and when required. A cut is made in the old stem to obtain gum from the bark. Babul gum sold @ Rs. 55/- kg.

Acacia se/legal (L.) Wind. (Mimosaceae)

It is a small, prickly tree common on wastelands and gravels throughout the desert. It has glabrous-grey pubescent branches having hooked or straight spines. The two spines are slightly curved upwards and middle one curved downward. Leaves dark green. Flowers in whitish fragrant spikes. Fruit is linear, oblong, thin flattend pod, pale brown, 3-6 seeded. Flowering and fruiting in August - January.

Part used: Gum resin, Stem and Flower

Usage: Source of true gum Arabic, which is demulcent and cures intestinal trouble because of soothing effect on mucous membrane. Externally it is applied on inflammed parts and bums and sores. It cures malaria, cough and sore throat. Gum is used to prepare sweet dishes which are used after delivery as a tonic. Twigs are used for cleaning teeth. The bark decoction is beneficial as a gargle and mouth wash in throat infection. The decoction of flowers is used to wash the infected eyes by desert dwellers. Seeds eaten as vegetable.

Agrotechniques : Propagated through seeds, it prefers sandy loam soils besides sand dunes and rocky areas. Direct sowing of seed! one year old plant prepared in nursery can be planted in June-July. It requires 1-3 irrigations in first year after plantation to ensure better survival. Weeding as and when required after planting. Gum is collected from bark. Pods are dried in the sun light and seeds are taken out. Gum sold @ Rs. 55/kg, Kumat seed sold @ Rs. 100/kg.

Achyranthes aspera Linn. (Amaranthaceae)

It is a common weed under shade throughout up to 1000 m elevation in India. An erect, stiff annual herb, up to 1 m tall, branching near the base. Stem angular, ribbed, thickened, light green or pink covered with short, stiff and slightly rough hair. Leaves simple, elliptic or obovate, acuminate or rounded at apex and glabrous. Flowers greenish white, small arranged on terminal or axillary spikes. Seeds light brown, sub cylindrical, pointed at apex and rounded at the base. Flowering and fruiting in August to December.

Part used: Whole plant

Usage: Its ash having high proportion of potash, acts as antacid. A bath with whole plant decoction relieves itching in skin diseases. Powder of whole plant cures spleen enlargements. Decoction of plant is diuretic while its ash is used in cold and cough. Leaves are used to treat asthama. Decoction of powdered leaves useful in the early stages of diarrhoea and dysentery. The juice of leaves is valuable in stomach disorders, kidney problems and is also applied externally over cuts and wounds. Jts powdered root is very useful in pneumonia and cholera. Paste of the root is very beneficial in eye disorders (Opthalmia and opacity of the cornea). Root paste with cold water is given to stop bleeding after abortion. Root powder given as an antidote in dog bite, scorpion sting and rat bite. Root paste is applied on the abdomen for facilitating easy and painless delivery. Seeds mixed with milk are used as tonic.

Agrotechniques : Propagation through seeds. It is normally a weed and hence collected from nature. No specific agro techniques are available. Whole dried plant is sold @ Rs. 8-101kg and of seeds is sold @ Rs. 40/kg.

Economic Importance

Medicinal plants are an integral part of our health care system. The therapeutic potential of plants and plant based product are recognized throughout the world. Globally, different systems of treatment exist such as Allopathic, Homeopathic, Ayurvedic, Chinese system of treatment etc. The developed communities have their own Materia Medica, compiling comprehensive information about various plants used for therapeutic purposes. The international herbal trade market is revolving around China and Indo-Pak while the total global herbal market of plant-based drugs has been estimated as $ 25-30 billion annually. The modern medical setup recognizing and moving to a system based on the combination of orthodox and natural therapies for the effective treatment of disorders

Conclusion

Entire herbal trade is witnessing a spectacular renaissance comprising of collector - grower - processor - phannacies - multinationals - distributors - dealers and across the shelf shopkeepers and 'Pansaris'. Diversification of cropping system using medicinal plants will open new vistas for poor farmers to earn higher profits. However, education of enlightened farmer/collector with the basic knowledge of medicinal plants and their herbal targetable products so also their agro-techniques and value addition are key issues which can provide him an edge to realize full value of his products. The present review article " SOME IMPORTANT MEDICINAL PLANTS IN INDIA: ECONOMIC PERSPECTIVE" provides relevant information of species, their herbal products and agro-techniques along with their

uses and cost. The agro-scientists all over India deserve appreciation for very informative and timely publications time to time in the past. It is hoped that the present article will benefit fanners, extension workers, line departments and researchers as well as planners to provide due right perspective to use this treasure of natural wealth in order to augment the income of farmers and to generate employment.

References

1. Jain, S. K. 2002. Bibliography of In dian Ethnobotany. Scientific Publishers, Jodh pur.
2. Khare, C.P. 2004. Encyclopedia of Indian Medicinal plants. Rational western Therapy. Ayurvedic and other Traditional usage, Botany. Springer Pub. Germany. 494p.
3. Kirtikar, K.R. and Basu, B.D. 1975. Indian Medicinal Plants. Mis Bishan Singh Mahendra Pal Singh, Delhi, India. Vol. I-IV, 2793p.
4. Kumar, S. and Parveen, F. 2019. Floristic diversity as a source of household traditional and commercialized remedies in Arid Western Rajasthan, India. Journal of Economic and Taxonomic Botany, 24(2): 495-505.
5. Kumar, S. and Parveen, F. 2004. Aushdhiya Khar Patwar: Aai Ke Srot. CAZRI Prasar Bulletin2004 ;1, CAZRI, Jodhpur, 23p.
6. Kumar, S. and Shankar, V. 1985. Medicinal plants of the Indian dese11: Commiphara wightii (Arnott) Bhandari. Journal ojArid Environments, 5: I-II.
7. 2 . Katewa, S.S., Chowdhary, B.L., Jain, A and Takhar, H.K. 2011. Some plants in folk medicine of Rajsamand district (Rajasthan). Ethnobotany, 13: 129-134.
8. https://www.researchgate.net/publication/262798460_Medicinal_Plants_Economic_Perspective_and_Recent_Developments.