

SOME ENDANGERED MEDICINAL PLANTS OF NEPAL

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ABSTRACT: *Forty-five endangered medicinal plants of Nepal are mentioned in this paper. Some recommendations for their preservation are also discussed here.*

Introduction

The creation of nature is thoughtful and meaningful. It is important to maintain the balance between plant and animal kingdom. But because of various reasons, the plant resources were destroyed in last few decades, and many species were rendered threatened or extinct. This is the global problem. In Nepal, a major portion of its area is covered with hills and mountains, occupying the central portion of Himalaya. This is the reason for the country being the richest depository of diversity in plant wealth life. In this regard, the altitudinal range, temperature, rainfall and soil have also important role. The medicinal plants are forest based natural resources and have important contributions in Napalese health care. About 90% of the population in Nepal depends upon local healers and Ayurvedic medical treatment, as they are less expensive and easily available. Besides, these medicinal plants are export commodities and sources of national income (Manandhar, 1980).

Causes of threat

More than 500 species of medicinal plants used in traditional medicine grow

in forests and surrounding areas. About 50 species are commercially exploited from the natural resources (Manandhar, 1980).

The forest, which is the natural habitat of medicinal drugs, is being depleted each year. Till two decades ago, one-third of the total land of the country was covered with forests and this green forest was its pride and wealth. But because of the disturbances of natural habitat of these plants only about 20% of forest remains (Dali 1983). It may owing to illegal cutting of plants for timber, fuel wood, unauthorized settlement, deliberate setting of fire by cattle grazer inquest of fresh patches of grazing land.

These medicinal plants are also destroyed for commercial exploration and collection of entire plants, roots rhizomes barks, tubers, corms, seeds, flowers and fruits.

The plant species are also destroyed indirectly because of various other human activities viz. over grazing of domestic animals in the forest.

The natural calamities like uplifting or sinking of land, flooding, glaciations, droughts, landslides and fire have significant contribution to lead the drug

plants in endangered and threatened stage.

Diseases insect attacks absence of pollination and inadequate reproductive mechanism are also some additional factors, which cause harm to plants.

Endangered Medicinal plants

The plants, which are exploited for their roots, seem to be severely threatened. Their roots of these plants are collected by removing the whole plant these plants are: *Aconitum ferox* Wall *Aeginetia Indica* L., *Asparagus racemosus* Willd., *Brachycorythis Obcordata* (Lindl.) Summerh., *Dactylorhiza hatagirea* (D. Don) Soo and *Dioscorea deltoidea* D. Don.

The plants like *Podophyllum hexandrum* Royle and *Paris polyphylla* Sm. Have limited distribution and medicinal roots are collected digging the whole plant. *Mesuaeferra* L. is also limited in its distribution with extensive collection of its flowers. The same is the case about the distribution of *Rauvolfia serpentina* (L) Benth. Ex Kurz where its root and stem is collected for medicinal purposes.

The same method is followed in the collection of the rhizome of *Rheum australe* D. Don, *Bergenia eiliata* (Haw) Sternb., *Nardostachys grandiflora* DC *Picrorhiza Scrophulariflora* Pennel and *Valeriana jatamansi* Jones.

In case of tree species the bark of *Alstonia Scholaris* (L) R.Br *Betula utilis* D. Don, *Cinnamomum tamala* (Buch Ham) Nees & Ebrn. And *Myrica esculenta* Buch-Hum. Ex D. Don is used for construction as well as for fuel. The leaves of *Cinnamomum tamala* are extensively collected for species and export.

Woodfordia fruticosa (L) Kurz is felled to collect its medicinal flowers or the branches for fuel. The fruit of *Zanthoxylum armatum* DC and the flowers of *Bauhinia variegata* L., is generally collected by cutting its branches while the later is also lopped for cattle fodder. The flowers of *Butea Monosperma* (Lam.) Kurz., the fruits of *Terminalia belerica* (Gaertn.) Roxb. And *T. Chebula* Retz are export commodities of Nepal and are collected by unskilled villagers. Besides, the use of their timber for various purposes in another cause. There are some trees, which are also extensively used as timber, fuel and fodder. They are: *Acacia catechu* (L.f.) Willd., *Adina cordifolia* (Willd, ex Roxb.) Benth. & Hook. F. ex Brandis, *Aesandra butyracea* (Roxb) Baehni, *Bombax ceiba* L., *Callicarpa arborea* Roxb., *Cedrus deodara* (Roxb. Ex Don) G. Don, *Dalbergia sisso* (Roxb. ex DC., *Dillenia indica* L., *D. pentagyna* Roxb., *Elaeocarpus sphaericus* (Gaertn) K. Schum., *Juglans regia* L., *Madhuca longifolia* (Koenig) Macbride, *Michelia champaca* L., *Oroxylum indicum* (L) Kurz, *Rhododendron arboreum* Sm., *Sapindus mokerossi* Gaertn., *Schima wallichii* (DC) Korth., *Schleichera oleosa* (Lour.) Oken, *Shorea robusta* Gaertn., *Terminalia tomentosa* Wight. Et Arn. And *Trichilia connaroides* (Wight & Arn.) Bentvelzen etc.

Recommendations

There are different agencies and institutions, which are engaged to conduct research programmes for the development of medicinal plants. Most of these plants grow in nature and for this there is a lack of substantial works to pay attention towards endangered flora. Obviously, it is hard task to stop the over progressive destruction of

various species of drug plants. Though it is not easy from the viewpoint of technical and economical condition its avoidance cannot be justified. It is time to frame some agenda for their conservation. The following few suggestions may be considered the beginning steps to protect the threatened species.

1. The preservations of natural habitat may be given priority. The virgin forest area should be protected from grazing, fire and cutting down of plants.
2. The collection of medicinal plants should be in appropriate season, in proper way and on rotation basis. This will not only improve the quality of drugs, but also ensure dispersal of their seeds.
3. Areas representing the particular species should be demarcated and guarded from cattle and human influences.
4. The list band systematic survey of threatened plants may be conducted with a view for mapping species ranges to

determine the localities of endangered species. It may be of considerable value in determining and establishing properties for preserving the habitats of endangered plants.

5. At present there is a large trade of endangered drug species, which are collected from forests. It is important to enforce control on trade of such plants.
6. The illustration of endangered and commercially exploited species should be made available to the public so that they may be encouraged to leave threatened species undisturbed or only to photograph them carefully.
7. Apart from some prevailing limit-actions there are some more measures, which may ensure the conservation of endangered plants. They are:
 - a. Introduction of growing plants in the Botanical garden.
 - b. Propagation of plants through tissue culture method.
8. In this regard there are the need of rules and regulations, which should be followed strictly.

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