4.38/T_4-156

Rudiments of Sustainable Bark Harvesting in Medicinal Trees

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Keywords: Bark**,** medicinal tree, sustainable harvesting, over exploitation, regeneration

1. Introduction

Medicinal plants play an important role in health care system especially in developing countries. The forest in India is the principal repository of large number of medicinal and aromatic plants, which are largely collected as raw material for manufacturing drugs, perfumery and other edible products. Bark is one of the most utilized plant parts constituting major component for the preparation of various formulations in the Indian system of medicine. The growing demand for medicinal bark, commercialization and destructive harvest techniques pose a major threat to high demand forest species. Also, a huge population, especially rural communities, still use traditional medicines mostly harvested from natural forests. Considering the importance of the medicinal plant industry and the dependence of communities on traditional medicines is growing concern, as it is leading to uncontrolled, destructive harvesting and over exploitation of tree bark from natural forests. Such practices have been dragging many valuable tree species towards extinction.

2. Material and methods

Literatures related to harvesting of bark, their impact on trees and sustainable bark harvesting practices were reviewed. Relevant literatures focusing on said areas were collected, reviewed properly and presented to highlight the importance of sustainable bark harvesting especially in medicinal trees with special reference to tropical species.

3. Results and discussion

Bark harvesting can be injurious and dangerous to the survival of trees if indiscriminately practiced. Therefore, it is necessary that the harvesting practices employed should be non-destructive. Systems for sustainable bark harvesting largely depend on the response of the target species to bark stripping. The volume of bark that could be harvested under different harvest prescriptions and scenarios would largely depend on the growing stock and growth of the target species, bark characteristics (especially bark thickness) and the rate of bark regrowth after harvesting. Overall, review shows that bark of many woody plants having various medicinal properties and utilized in larger scale by herbal industries. Study also indicating that, the quality of bark in terms of its biomass, chemical properties, regrowth/healing properties are depending upon several factors like species, genotypes (individuals), age or girth of trees, season of collection, parts used (main stem/branches), methods of bark harvesting/collection made including processing and storage. Different tree species react differently to bark harvesting both in terms of wound closure and susceptibility to insect and fungal attack. It is observed that, vertical strip method of bark harvesting with one or two collection frequency is ideal for bark yielding medicinal trees which may regenerate/recovery the bark without causing much damage to the trees. Strip harvesting also helpful to ensure a sustainable supply of medicinal bark to the needy stakeholders. Literatures also suggested the application of protection treatment (eg. fungicide) immediately after the bark harvesting not only act as protection function, but also improve the bark regeneration.

Reference

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