

RAPID SURVEY AND MAPPING OF MEDICINAL PLANTS IN FOREST DIVISIONS OF GARHWAL REGION, UTTARAKHAND

A Collaborative Project of
Wildlife Institute of India & Uttarakhand Forest Department



भारतीय वन्यजीव संस्थान
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EXECUTIVE SUMMARY

A project on the 'Survey and Mapping of Commercially Important Medicinal Plants in the State of Uttarakhand' was initiated in the month of February 2008. It is a collaborative project between the Wildlife Institute of India (WII) and Uttarakhand Forest Department (UKFD), funded by the Government of Uttarakhand. The Major objectives of the project are as follows: (i) To quantify the availability of commercially important medicinal plants in various Forest Ranges of Uttarakhand (Garhwal region); (ii) To generate a spatial database on the distribution and abundance of medicinal plants for future monitoring and conservation planning; (iii) To evolve strategies for sustainable harvest of medicinal and aromatic plants.

This report gives a brief description and preliminary findings of the work carried out during February-January 2009.

The survey is being conducted in various Forest Divisions of the Garhwal, Uttarakhand. During the study period rapid mapping exercise was done in three Forest Divisions of Garhwal viz., Dehradun, Tons and Upper Yamuna. So far data analysis for Dehradun FD has been completed.

All eight ranges of Dehradun FD are badly infested by *Lantana camara*. Most important medicinal plants recorded medicinal plants in the Division include *Phyllanthus emblica*, *Terminalia belerica*, *Terminalia chebula*, *Holarrhena antidysenterica*, *Woodfordia fruticosa*, *Vallisneria spiralis*, *Asparagus adscendens*, *Baliospermum montanum*, *Curculigo orchiooides* and *Plumbago zeylanica*.

Most of the medicinal plants had patchy distribution. *Rauvolfia serpentina*, *Baliospermum montanum* were recorded only in shady and moist places under Sal forest. *Plumbago zeylanica*, *Vallisneria spiralis*, *Adhatoda zeylanica* and *Boerhavia diffusa* were mostly found in dryer areas or open scrubs forest with *Lantana*.

In addition to transect in representative area, it is felt that intensive search for certain species such as *Rauvolfia serpentina* and *Centella asiatica*, *Celastrus paniculata* and *Tinospora cordifolia* would be required.

Gola block in Rishikesh and Golatapper in Barkot range have characteristic swamp forests rich in plant species. Characteristic species include *Pterospermum acerifolium*, *Diospyros malabrica* (= *Diospyros embryoteris* Pers.), *Rauvolfia serpentina* and *Calamus tenuis*. These patches require more systematic inventory.

Adhatoda zeylanica is fairly common having high densities in the eastern parts of the division, especially in open areas. Hence, open forests of Thanu, Barkot, Lachiwala and Rishikesh can be considered for 20 – 25 % harvest followed by replanting of this species. A rotational harvest plan for this species even in *Lantana* infested areas can be considered for sustainable management of NTFPs.

Baliospermum montanum has good distribution in Rishikesh, Lachiwala, Jhajhara and Asarori ranges. Arcadia block of Asarori range is recommended for the conservation of species whereas Bibiwala and Gola blocks of Rishikesh range, Majhaun block of Jhajhara range and Dudhali and Lachiwala blocks of Lachiwala range are recommended for development of the species.

Considering the low abundance and high potential of *R. serpentina*, *T. Chebula*, *S. Officinalis* and *T. cordifolia* in the division. It is strongly recommended that highly degraded forest patches in western dun taken up for recovery of these species by large scale plantation subsequently to eradication of *Lantana* and *Eupatorium*. It would be also necessary to raise high-tech nurseries for these species were more than five lakh seedlings of each species can be raised for plantation in division.

It is pointed out that forest department; Haryana has successfully raised nurseries of *T. chebula* (18 varieties). Uttarakhand forest department may tack help from above agencies for establishment of Germplasm bank for the species.