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RED SANDERS TREE (*PTEROCARPUS SANTALINUS* LINN. F.) ON THE VERGE OF DEPLETION

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The Red Sanders tree is endemic to the Cuddapah-Nallamalai-Arcot range of the Southern Eastern Ghats of India. This natural ecotonal zone (200-900 m) has a mixed deciduous type of vegetation with a predominance of *Anogeissus latifolia, Chloroxylon sweitenia* and *Hardwickia binata* with which *Pterocarpus santalinus* is associated at the lower elevations. At higher elevations the Red Sanders tree is associated with plants like *Terminalia chebula, T alata, Syzygium alternifolium, Buchanania lanzan* etc. The 'boda' grass or *Cymbopogon coloratus* is characteristic of Red Sanders areas. The tree occurs gregariously in patches in the aforementioned regions of the Southern Eastern Ghats which geologically belong to the 'chegyar' sub-series of the Cuddapah formations. These dry hilly and often rocky slopes constitute gravely soil on formation of shale or laterite (conducive for *P. santalinus*), gneiss and quartzite.

The ecological adaptation of this particular tree species to the specialised habitat conditions mentioned above is in itself a limiting factor or constraint, insofar as its propensity to diversify or establish itself in other ecological niches is concerned. The Red Sanders tree is on the verge of depletion due to indiscriminate felling over a long period of time, for its prized wood and other uses. This commercial exploitation without commensurate replenishment of the natural stands in the Southern Eastern Ghats poses a grave threat to the future of this beautiful timber plant.

The Red Sanders wood (or the red sandal wood as it is otherwise known) finds a wide range of application. It is primarily used in sculpturing and house construction. To a large extent it is exported to countries like Sri Lanka, Germany and Japan, which are the major customers. In Japan the wood is used in making components of a musical instrument called 'Shamisen' Depending on the grain of the wood it is classified into 3 grades (A, B & C). The value of the wood has been increasing by 15 percent every year and at present (1983-84) the rate stands as follows :

Grade A — Rs. 140,000/- tonne
Grade B — Rs. 90,000/- tonne
Grade C — Rs. 30,000/- tonne

The actual quantity of wood exported since 1967 from the Madras harbour is :

Year	*Quantity in tonnes*
1967	153.8
1968	213.2
1969	208.1
1970	285.9
1971	256.2
1972	231.8
1973	444.3
1974	130.0
1975 to 1980	not available
1981	99.910
1982	159.841
1983 (Aug.)	20.000

Source : Dept. of Forestry, Hyderabad, A. P.

Date of receipt : 16.4.84. Date of acceptance : 3.9.84

Before the advent of artificial dyes, its extract—a red chemical substance 'santalin' —had found popular use as a dyeing/staining agent. It is also used as a histological stain. Medicinally, the wood is supposed to be diaphoretic, astringent and also a tonic. The wood paste finds application in curing headaches, inflammations and other skin ailments.

The Red Sanders tree also has some indicator value as it is found mostly in areas rich in ferruginous content. Further research along this geo-botanic line could yield interesting results.

The ecological adaptation of a genotype is generally governed by temperature, rainfall or precipitation etc. besides other edaphic factors and past history. The narrow restricted distribution of the Red Sanders is attributed mainly to the transitional rainfall regime of the Nallamalai-Cuddapah-Arcot range, from dissymetric to tropical type (Legris & Meher-Homji, 1982 ; Nayar, Ahmed & Raju, 1984). Since the gradual depletion of the genotype does not augur well for the future of this very interesting tree, ways and means must be found for its survival. If Government legislation could lay a ban on the export of its wood much could be achieved in this direction.

Conservation of this species calls for the protection of its natural habitat as well. Further studies must be carried out to understand the biology/phenology of the plant. The Red Sanders tree flowers in April-June, seeding the following February-March. Though the tree coppices well, producing root-suckers freely, the regeneration and growth is very slow. The seedling requires 80 to 100 years to reach a girth of 60 to 75 cm. The heartwood begins to form after as many as 18 years when it has attained a girth of 15 to 22 cm. Besides allowing natural regeneration attempt should be made to propagate it artificially through meristem and tissue culture.

Considering its slow regeneration and growth the Red Sanders is not exactly a renewable resource in terms of time-scale. Prudent management of this limited genotype, buttressed with long-term reforestation programmes is of cardinal importance and might go a long way in saving the Red Sanders from depletion.

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