



## SANDALWOOD FARMING IN INDIA: PROBLEMS AND PROSPECTS

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**ABSTRACT:** Indian Sandalwood (*Santalum album* L.) may be considered as one of the world's most valuable commercial timber and is currently valued globally for its heartwood and oil. Since liberalization of rules regarding sandalwood growing in 2001 and 2002 there has been tremendous interest among farmers and stakeholders across India in farming this tree. The hemi-parasitic nature of the tree, its adaptability to grow in semiarid tracts and potential to grow in combination with horticultural species as secondary hosts makes it a potent agroforestry species. High demand and remunerative prices of heartwood have motivated farmers/stakeholders to take up sandalwood farming especially in non-traditional areas in many states across India like Gujarat, Rajasthan, Andhra Pradesh, Madhya Pradesh, and Maharashtra since the past decade. The potential of the tree in natural and naturalized forested areas, existing farming systems and other silvi-horticultural systems across India have been studied by IWST including heartwood and oil formation using non-destructive methods. The scope of cultivation in current farming systems including economics of cultivation have been critically analyzed and presented. The current problems and future prospects for increased livelihood opportunities and enhancing farm income levels also discussed along with suggestion for promoting sandalwood farming practices across India.

**Key words:** *Santalum album*, heartwood, oil content, core samples, sandalwood farming, agroforestry

**Citation:** Mishra B, Chakraborty S, Sandhya MC, Viswanath S (2018) Sandalwood farming in India: problems and prospects. Indian J Trop Biodiv 26(1): 1-12

Received on : 11 Jan 2018  
Accepted on : 27 Mar 2018  
Published on : 30 Jun 2018

*Santalum album* L. is intimately associated with Indian culture and heritage and is acclaimed

as the most precious and valuable among Indian forest trees. Sandalwood trees are the source of highly priced and fragrant heartwood which on steam distillation yields on an average 5-7% oil of high grade perfumery value. *S. album* belongs to the family Santalaceae, and is a hemi root parasite tree species. The heartwood is the commercially important part while the close grains in wood make it highly amenable for carving and fabricating exquisite handicraft items that are fragrant, elegant and largely self-protected from termites and wood borers (Arun Kumar et al., 2012)

In India, nearly 98 per cent (8300 sq. kms) of the total sandalwood area is in Karnataka and Tamil Nadu. In Karnataka, sandalwood is spread over an area of 5245 sq. kms. Sandalwood, referred to locally as Chandana or Srigandha, has always been regarded as a 'state tree' of Karnataka. Sandalwood trees are generally distributed in southern and southwestern parts of the state. India exports around 2000 tonnes of wood and 100 tonnes of oil annually to various countries and accounts for 99 per cent of sandalwood oil production in the world (Rai and Sarma, 1990) However, recently, the annual production of

sandalwood has declined from 4000 tonnes in 1965-70 to nearly 2000 tonnes in 1999-2000. The oil production has also decreased to 40-50 tons in 1999-2000 from 60 tonnes in 1981-1994 (Ananthapadmanabha, 2000). The global production of sandalwood is 4000 tonnes. Officially, India produces about 10% of global production i.e., around 400 tonnes of sandalwood (Times of India, 2012). The current cost of sandalwood oil at Cauvery Emporium outlet of state run Karnataka State Handicrafts Development Corporation (KSHDC) was Rs.1500 for 5g or Rs.3, 00,000 per kg in 2012. (Arun Kumar et al., 2012). The average auction price of sandalwood in 2013 was Rs. 6500/kg in Tamil Nadu Forest Department at Salem depot in Tamil Nadu (Viswanath, 2014). The average e-auction price of sandalwood recorded in Marayoor Sandalwood reserve Forest division of Kerala Forest department in 2016 was around Rs 12,000 /kg and the average price paid to farmer by Karnataka Soaps and Detergents Ltd., Bangalore (KSDL) on procurement of sandalwood is Rs 6400/kg (KSDL.pers.comm). However, international prices are 20% higher and in excess of Rs 2, 00,000/kg for sandalwood oil.

Sandalwood (*Santalum album* L. or East Indian sandalwood) can be considered as one of the world's most valuable commercial timber. The species is quite hardy, can grow in dry and degraded lands and over a