

4. AZADIRACHTA INDICA

Extent of adoption

A report by Forster & Moser (2000) on global *Azadirachta indica* (neem) usage indicates that the neem tree is most widespread in India - from the most southerly region around Kerala up to the Himalayas. Estimates currently run at approximately 14 to 20 million neem trees throughout the country, with roughly 10 million trees in the two provinces of Uttar Pradesh and Tamil Nadu alone. In Africa, neem is found in many countries in East and North Africa. Senegal is estimated to have 6 million, 500,000 trees, Malawi 350,000, Mauritania, 100,000, Ethiopia 30,000, Uganda, 25,000 and Somalia, Kenya, Tanzania, and Mozambique with several thousand trees. , (Table 1).

Table 1: Estimated occurrence of neem (*Azadirachta Indica*) by world regions

	World wide	Asia/ Oceania	Africa	Caribbean/Latin America
Neem occurrence in millions	64.1 - 91.1	27.1 - 39.1	31 - 45	5.5 – 6.5

Source: Forster & Moser 2000

Economics of production

Hegde (1993) estimates that an average neem tree can generate an annual income of USD 1.25. A hectare of trees (150-200) could therefore generate an income of approximately USD 350, which is more than the returns received for some food crops.

Marz (1989) calculated an internal rate of return (IRR) of between 10-30% for a 24 year rotation cycle, when both wood and fruit were harvested in India and Togo. Ruthyunjaya and Dyanatha (1993) studied the economics of plantations and calculated that an IRR of 46% could be achieved if total output (fruits, fuelwood, twigs and top feeds) were brought into the equation for a 23 year rotation cycle. They identified additional factors for consideration, which included a range of management and policy issues, and calculated that a positive cash flow from a neem plantation would only be achieved in the 5th year, i.e. the time the tree starts producing fruit.

Marketing

Forster and Moser 2000 give market values for neem as shown in table 2

Table 2: Market value of dried neem seeds in USD/ kg

Region/ country	Estimated value USD/ kg
Asia	
India	0.05 - 0.35
Sri Lanka	0.22
Pakistan	0.10
Myanmar	0.75 - 1.15
Thailand	1.00 - 1.20
Indonesia	0.50

Australia	1.00
Africa	
Benin	0.2 - 0.20
Kenya	0.1 - 0.4
Tanzania	0.25 - 0.5
Madagascar	0.12
Ghana	0.35 - 0.6
Nigeria	0.08 - 0.30
Latin America/ Caribbean	
Dominican Republic	1.60
Nicaragua	1.00
Haiti	0.60

Source: Foster and Moser 2000

Further reading

Forster, P. and Moser, G., (2000) Status Report on Global Neem Usage. GTZ

Hegde, N.G. (1993). Social forestry programme and a strategy for enhancing people's participation in wastelands development. In background papers for National Convention on landwater use and watershed development in India. Yashwantrao Chavan Pratishthan, Mumbai 79 - 85.

Marz, U. (1989) The economics of neem production and its use in pest control. Farming Systems and Resource Economics in the Tropics 5.

Ruthyunyaja, M. and Dayanatha, J.H.A. (1993) Economics and Policy Issues in Neem Research and Development. Eds. N.S. Randhawa and B.S. Parmar, Publication No 3, Society of Pesticide Science, India: 263-270.