

## **Book review**

**The Afforestation Manual – Technology and Management**, P.R. Siyag, 1998.

Reviewed by David South.

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Due to technical problems encountered during the processing of this book review, a serious error appeared in the final printed version which has made it necessary to reprint the book review in its entirety.

In the following pages, we reproduce an updated version of the original book review which should be treated as definitive by the reader.

## Book review

**The Afforestation Manual – Technology and Management** P.R. Siyag. 1998. TreeCraft Communications, Jaipur, India. 585 pp. ISBN 81-901032-0-2 US\$ 55 <http://www.afforestationmanual.com>

National Forest Policy in India changed in 1988 from a production function to an environmental role. The new policy objectives included an effort to increase tree cover through afforestation. Ten years later, P.R. Siyag published a manual to help field workers benefit from his experiences in tree planting on degraded lands and sand dunes. The manual is based almost entirely on his work in arid and semi-arid zones. As a Deputy Conservator of Forests, the author helped to establish over 1,500 ha of plantations in Rajasthan. Today, India is said to have more than 32 million hectares of plantations; many by afforestation. Although the manual does not include similar work in other tropical areas of the world, it could be useful in areas with similar droughty environments.

The manual contains five parts: Technical Manual (113 pages); Management Manual (59 pages); Technical Charts and Tables (227 pages); Management Charts and Tables (85 pages); and Tree Planting Guide (6 pages). The Technical Manual covers topics such as nursery management, site selection, site preparation (e.g. terracing, digging of pits and fencing), planting, weeding and fertilization. The Management Manual covers the organizational framework, record keeping, monitoring, quality control, utilization and extension. The Tree Planting Guide contains a few English units (feet, inches) but the rest of the manual uses metric units. There are 32 color photographs showing examples of afforestation, nurserybeds, and degraded sites. The manual also contains a Glossary and Index. Acronyms are frequently used throughout the text so a key to acronyms is provided to let the reader know that MBWA means ‘management by wandering around.’

Over half the book is composed of figures and tables. Some tables provide information on species characteristics, nursery construction, pest control, fencing materials, and soil pitting designs. There are a number of examples of forest service control forms (many are blank). All costs are expressed as worker-days, which avoids the need to convert currencies. For example, on a firm rock using a pick, a worker may take all day to dig 2 or 3 planting pits (0.45 × 0.45 × 0.45 m deep). On an easy site with a sandy loam soil, a worker might dig 23 pits in one day. Therefore it is not surprising to read that

afforestation programs are not 'financially viable' when rainfall totals less than 500 mm/year.

As suggested by the title, this reference is not an academic text. There are no citations to support the recommendations (although 13 reference books are listed in a bibliography). Since I question some of the author's claims, the lack of supporting documentation is troubling. For example, it is stated that pot turning helps prevent roots from coiling in polybags. Turning or moving pots can reduce roots growing into the ground but it does not prevent either coiled roots or pot-binding. Although weed control is beneficial, I question the need for 'deep hoeing' to break up 'capillaries in the soil' and prevent loss of water from the soil. This belief was once strong with farmers in the United States until research with no-till farming showed this to be unfounded.

The manual is the result of nine years of experience by the author. Unlike some texts that concentrate on mainly the biology, this publication covers both technical and managerial aspects of afforestation. Some readers may object to the consistent use of pronouns 'he' and 'his.' This gives the incorrect view that women are not involved in afforestation projects in India. The book is printed on good quality paper but the binding of my copy is starting to separate from the body.

David South