Deutscher Tropentag, October 8-10, 2003, Göttingen

"Technological and Institutional Innovations
for Sustainable Rural Development"

Industrial Afforestation Programme with *Acacia mangium* in Tropical Savannas of Roraima, Brazil

Joachim Meier-Doernberg[1], Reinhold Glauner[2]

[1] *University of Hamburg, Chair of World Forestry, Germany*
[2] *Federal Research Centre for Forestry and Forest Products, Institute for World Forestry, Germany*

Abstract

Tropical forests are still disappearing at an alarming rate although recent studies indicate that forest depletion is slowing down. Government supported reforestation and afforestation campaigns often failed, because (i) the local population seldom actively participated and benefited in and from the activities, (ii) government institutions often lack the managerial skills to administer diverse forestry activities, and (iii) the necessity to adhere to economical principles was not distinctive. Consequently, initiatives based on private investments should show more promising approaches, appropriate for management of large scale reforestation projects. However, reestablishment of natural forest vegetation is capital-intensive and periods until first returns can be expected usually are beyond the acceptance level of private investors.

An alternative is the establishment of forest plantations with fast growing timber species. Fibre wood and high value timber ideally can be produced simultaneously in short to medium terms. Low quality stems and wood from tending operations, both highly suited for fibre production, become already available within 3–5 years after planting. Wood for sawmilling can be produced within 12–15 years.

The afforestation project in Roraima performs the plantation approach with private investments. However, the natural savannahs (Cerrado) show harsh conditions for tree plantations. Soils are heavily compacted after years of cattle ranching, bush fires are abundant, especially during the dry season, and plant-available soil nutrients are low. However, after soil melioration, the planted trees show satisfactory performance. The first stands were planted in 1999 and meanwhile first silvicultural treatments are carried out. Inventory results show that volume increment has a high variation which clearly can be attributed to site conditions. Thus, permanent improvement measures of melioration activities need to be elaborated. Continuous feed-back of performance data combined with cost surveillance allow effective investment monitoring.

Keywords: *Acacia mangium*, afforestation, Brazil, cerrado, savannah

Contact Address: Reinhold Glauner, Federal Research Centre for Forestry and Forest Products, Institute for World Forestry, Leuschnerstraße 91, 21031 Hamburg, Germany, e-mail: glauner@holz.uni-hamburg.de