



Tropentag, October 9-11, 2007, Witzenhausen

“Utilisation of diversity in land use systems:
Sustainable and organic approaches to meet human needs”

Farming Systems and the Protected Environment “Mata Atlântica” of Rio de Janeiro

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Abstract

The Atlantic Rainforest of Brazil represents an example of a natural paradise under land-use pressure. Rich in biodiversity this “Mata Atlântica” is a favourite for natural scientists. The high share of endemic species is a strong argument for the conservation of natural forest. Extending along the most densely populated areas of Brazil, the forest regions are easy to be reached, offering beautiful landscapes to tourists. In areas difficult to access, as the characteristic rocky steep mountain range in the hinterland of Rio de Janeiro, large connected patches (fragments) of dense, mature Atlantic forest have been preserved.

In the less forbidding upland, the moderate climate and water abundance are favourable conditions for agricultural production, where highly productive horticulture systems have evolved. Many slopes have been turned into pasture land. Steep slopes and most of the mountain tops are still covered with forest vegetation, resulting in the typical mosaic landscape for the Mata Atlantica of Rio de Janeiro state.

Detailed studies on the interaction between agricultural land-use and forest fragments were conducted in a rural watershed of Corrego Sujo in the municipality of Teresópolis. The share of intensive horticulture land is only about three percent, extending at the bottoms of the valleys. Most of the horticulture farmers work on rented land in a sharecropper’s relationship with the landlord. Farm areas in horticulture are small, usually below one hectare. Still, those farms yield a decent family income for the majority of farmers. The risk of volatile prices is buffered by the variety of crops produced in a rotation with several crops of short production cycles.

For the rural population, near-nature forest fragments are an important component of the landscape. The function of forest in preserving water resources is widely recognised. Tourists admire the mosaic landscape, in which the shades of green of horticulture fields and pastures for cattle and horses are important components.

Keywords: Agricultural landscape, environmental perception, environmental services, farming systems, forest conservation