

Soil Termites in a Rainforest, a Secondary Forest and Mixed-culture Plantation Sites in Central Amazonia

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Soil termites have been studied in detail in a rain forest (FLO), a secondary forest (SEC) and two agroforestry plantation sites (POA, POC) at the Embrapa Amazônia Ocidental in central Amazônia, using soil (0-5 cm) and litter samples taken at random within the study sites, using a soil sampler of 21 cm diameter. Twenty (FLO, SEC) or ten (POA, POC) samples were taken at each three-monthly sampling event between July 1997 and March 1999. The soil fauna was extracted from the samples, according to soil biology standard procedures, in a gradient of heat and moisture (Berlese apparatus). The study was part of the activities of the project on "Soil Fauna and Litter

Decomposition" (SHIFT ENV 52). Termites taken from these samples were identified to genus; individual numbers and biomass were determined. (For biomass determination, the collected termites were classified into size classes and the average weight of each size class, determined using animals freshly collected from the field, was used to calculate total biomass.) In this poster contribution, we give a list of termite genus diversity, then compare termite biomass and individual numbers in litter and soil at the different sites, and discuss possible factors that determine termite distribution in the field.

Secondary Forest Utilization and Extended Family Structure. Results from Field Studies in Igarapé-Açu (State of Pará, Brazil)

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Agricultural use of secondary forest is only one form of secondary forest utilization within slash-and-burn production systems. Comparative studies in the municipality of Igarapé-Açu/PA revealed that the number of utilities drawn from secondary forest areas have continuously declined over the years. This is partly due to overexploitation of natural resources and as such an expression of ecological stress. But it is also driven by the competition between natural-local and manufactured-regional and industrialized-national products and as such a result of the development of infrastructure and the opening up of the regional economy.

Family structures and farm-household systems have been seen at the heart of the peasant production systems (or peasant economies) in the region. Demographic pressure and the decline of market prices have been named as key factors for the crises of the traditional slash-and-burn production system in the municipality of Igarapé-Açu. But results of this research indicate that the rural-urban relations, agricultural policies and extended social networks represent key factors for the possibility and direction of the peasant's responses on economic and ecological stress.

Field research and secondary data about the development of agricultural production systems in the municipality show a

dominance of mechanization and intensification of land use patterns. But the case study identified various forms of peasant responses with diversification efforts in the first place. Diversification or specialization are general strategic options which in a few cases have been realized in the production system only. Most families combined a variety of factors and markets in their efforts of production and reproduction which constitute the family economy. This broader family strategy can be rather characterized as an archipelago structure than a farm-household system because non-parental relations may play a key role.

Despite significant differences between peasant economies and production systems at the Travessa do Cumarú (Municipality Igarapé-Açu, State of Pará, Brazil) the analysis demonstrated that secondary forest remains a significant and stable component in all but one of them. But portfolio analyses of individual households revealed that this secondary forests represent different systemic functions within different peasant economies. Therefore its economic importance varies significantly, too.

While a modeling of peasant decision making remains to be done by future analysis results presented here allow to suggest a typology of peasant economies and patterns of peasant development characterized by the clustering of key factors.