

S2-2-04 : Human Carrying Capacity: Estimation Approaches and Public Policy

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HUMAN CARRYING CAPACITY IN AMAZONIAN SETTLEMENT AREAS

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Amazonian settlement is often viewed by Brazilian planners as a means of absorbing migrants leaving other parts of the country because of land tenure concentration, agricultural mechanization, population growth, environmental degradation and population displacement by development projects. Human carrying capacity estimation studies suggest that these expectations are unrealistic.

For the purpose of obtaining human carrying capacity estimates useful in planning decisions, this quantity is operationally defined in terms of a gradient of increasing probability of colonist failure as a function of population density. Carrying capacity is considered to be reached when the probability of colonist failure exceeds a defined maximum acceptable level. The gradient, or colonist failure/population density profile, is constructed using results from a series of stochastic computer simulations run at different population densities.

The results from a study in the Transamazon Highway colonization area near Altamira, Para suggest that carrying capacity is low. Brazil must take effective measures to reduce population expulsion from the northeast and south-central parts of the country.

## ABSTRACTS

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