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49. Rural landscapes and ES in Tropical countries (OPEN)

Rural management practices and ecosystem service provision in Brazil

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It is a consensus that ecosystem management is a key knowledge to take efficient decisions to propose new land-use management practices. Since agriculture is a dominant form of land management globally, and agricultural ecosystems cover nearly 40 per cent of the terrestrial surface of the Earth (FAO 2009), proposing conservative land-use management becomes mandatory in the new world scenario. The development of an analytical framework relating agricultural conditions and ecosystem service provision could be very useful for developing land-use systems which sustain natural resources for future use. In Brazil, payment for ecosystem services (PES) emerged as a pro-action in environmental conservation and productive transition. However, few information about the influence of rural management practices on ecosystem service (ES) provision in tropical regions are available. In that way, a network project entitled “*Productive Transition and Ecosystem Services*” (PTES) supported by Brazilian Agricultural Research Corporation (EMBRAPA), aim to generate and validate methodologies and tools to support public policies that estimate the integrated productive system (IPS) adoption. As a first result, a conceptual network is presented based on literature review and expert knowledge about functional relationships between agricultural management and ES provision in four biomes in Brazil: Atlantic Forest, Amazon Forest, Cerrado (Savanna) and Caatinga (Semiarid region). The sites choose at those four biomes try to represent an ordinary land-use (based on slash and burn) and a new land-use (based on agroforestry principles). The ecosystem services evaluate in this study were: nutrients cycling, raw production, water regulation, water supply, food production, erosion control and climate regulation. A correlation matrix was organized, considering these services and the agricultural land management for an expert evaluation. This product will be used on the next steps of PTES project and can be used as a powerful tool supporting police makers on taking efficient decisions about agricultural land management and public policies.