

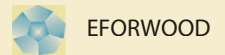
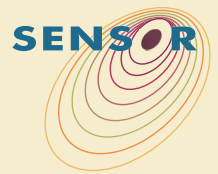
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Land quality monitoring systems that integrate local and technical knowledge contribute to sustainability valuation in agricultural landscapes

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The increasing attention paid to local knowledge in recent years results from the recognition that the knowledge of people who have been closely interacting with their environment for a long time can offer many insights about the sustainable management of natural resources. It is argued that research efforts should further explore a balance between scientific precision and local relevance resulting in a “hybrid” knowledge base. The generation of “hybrid” knowledge reflects an effort to understand land management in the context of many forces interacting within a dynamic rural livelihood context as well as in the promotion and protection of multifunctional land use. Increased concern about soil management as a key determinant of sustainability in agricultural landscapes has promoted the need to identify indicators to monitor changes in soil quality, and their impact in the provision of ecosystem goods and services, as affected by land use change and agricultural intensification. This is part of a continuing effort to develop land quality monitoring systems that strengthen local environmental/agricultural institutions and communities with tools that support local decision-making in natural resource management and promote sustainable land use in agricultural landscapes. This experience is currently being adapted in the Formoso River watershed region, Mato Grosso do Sul – Brazil with financial support from CNPq and Embrapa and complementing activities in the existing GEF-funded project entitled ‘Formoso River: Inte-

grated watershed management and protection’ and the IAI-funded project entitled ‘Land Use Change in the Rio de la Plata Basin: Linking biophysical and human factors to understand trends, assess impacts, and support viable strategies for the future’. The Formoso river watershed is located in the municipality of Bonito, MS, that was selected by the SENSOR TTC team as a sensitive region in order to test SIAT model development. 1Visiting Researcher

Keywords: land quality indicators, monitoring systems, decision support, ecosystem services, sustainability impact assessment