Book of Abstracts

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17. Information technology to support ecosystem services research and practice (OPEN)

Methodological approach of a database as support to Programs of Payment for Ecosystem Water Services in Brazil

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Ecosystem Services Payment (ESP) increment within environmental policies is due to its ability to maintain ecosystems functions and to improve farmers' income in rural areas. In Brazil, the water-related ESP programs had a remarkable growth, despite the lack of methodologies to evaluate those initiatives. In order to help ESP projects to reach their objectives, a multi-institutional group proposed to search, to organize and to analyse methodologies of monitoring, assessment and decision-support in water-related ESP projects. A bibliographic review showed large diversity of approaches on methodologies, indicators and ESP-projects. The organization of this growing textual data set requires a database system to ensure consistency and integrity; to avoid redundancy and ambiguity; and to provide efficient data access. It aims at facilitating data collection, compilation and classification, as well as providing a structured survey on theoretical or experimental information related to ecosystem services and/ or ESP, and identified to be part of the database. The main sources of information are indexed publications, governmental documents, international organizations reports, and local projects webpages. The National Water Agency (ANA) and *The Nature Conservancy* (TNC) provided majority of information regarding Brazilian water-related-ESP projects.
The database system is planned as a core tool for the assessment of ESP methodologies, and it is being implemented to be available on the Web, using open source tools. Its development includes: 1) Requirements definition: Interviews with the team to identify the main entities and their relations in the system. An entity represents an object of the real world, characterized by a set of attributes. 2) Database architecture design: the system has four

main entities – projects, methodologies, indicators and references, which are independent and have different types of relations. For instance, an individual project may use one or more methodologies, while a methodology may consider different sets of indicators. The reference should be identified as due information for every entity. As the system is under development, and data collection is ongoing, the developer provided spreadsheets as temporary storage. 3) Tool development: Database schema is being implemented to able the system to upload the spreadsheets. A requirement is that the database system can be filled even when one or more entities lack, so the user may fill in missing information in the future. The end-users should be professionals and organizations dealing with ESP projects, farmers, researchers, students, and governmental and non-governmental institutions related to water management and ESP.

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22. Ecosystem Services meet social science (OPEN)

Integrating Ecosystem Service Assessment into The Phsycal Planning Process

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The developed ESA technique for coastal wetlands as a novel, intensive and adaptable tool is contributing to a few aspects of knowledge including; decision support tools, environmental assessment methods, planning and management integrated analyses and valuation of coastal wetlands. Several examples of potential uses of this technique can be mentioned such as: diagnosis of the current status of coastal wetlands and classification of wetland areas into sub-units or homogenous areas; identification of the most significant and critical areas for protection; identification of potential development activities and land uses according to related significant values; selecting from planning and management alternatives; determining priorities of protection and management actions; supporting decision makers with the evidence to solve conflicts between competing development activities or stakeholders; and evaluating the sustainability of the planning and management process.
The developed procedure of the ESA and the way of establishing and testing it are again thought to be applicable in a wider variety of ecosystem types especially those considered by the MEA, including forest and desert habitats or even more widely in human dominated