

CARTOGRAPHY OF POTENTIAL AREAS FOR THE IDENTIFICATION AND QUANTIFICATION OF ECOSYSTEM SERVICES AND MECHANISMS FOR COMPENSATION IN MEXICO

Bermudez Rafael
International Institute for Geoinformation Science and Earth Observation
bermudez@itc.nl
Holanda

Ecosystems are widely recognized as providing valuable ecosystem services (ES) and amenities to improve quality of life and social well-being; however the impacts of global warming, economic globalization are affecting their provision and maintenance, through the conversion of natural ecosystems to agricultural, urban or industrial areas. In particular, watershed areas have the potential to offer benefits at various scales, locally and regionally and in some cases worldwide.

Their importance stems from their multiple ES values as water sources, and commonly as biodiversity zones, recreation areas, landscape values, and potential stabilizing soil losses and sedimentation.

Nevertheless, consistent and acceptable identification of potential areas which contribute to produce ES is not usually based on uniform criteria, and a well structured methodological approach does not exist. Some assessments have identified these high-priority zones on a very coarse scale, therefore in some important cases ecosystems are not well defined or are even excluded. This can lead to exclusion of programs, payment schemes and appropriate policy instruments for management. The present study combines biophysical and socio-economic elements of environmental vulnerability to identify potential areas for assessing ES and future compensation mechanisms.

The criteria to be used for identifying potential areas are demographic pressure, ecological fragility, forest condition, water provisioning, poverty levels, soil erosion risk and relationship between agricultural practices and slope. The analysis and development of clear methodological approaches makes use of Mexico's experiences of supporting diverse goods and services provided by ecosystem services with a number of economic schemes over the past decade. These have achieved some good results, attracting the attention of the World Bank to finance programs for watershed protection.

However improvement is still necessary, especially on how to reach more actors and benefit the most appropriate ES providers, and how to create the conditions necessary for management of sustainable programs at local community levels.