Economic Analysis of Conservation in Soil Biodiversity and Ecosystem Services

Mette Termansen¹ and Unai Pascual²

¹Aarhus University, Department of Policy Analysis ²Cambridge University, Land Economics

Abstract:

A premise for economic valuation of soil ecosystem services; and through this soil biodiversity, is that society values soil ecosystem services to the extent that they fulfil needs or confer satisfaction to humans either directly or indirectly (de Groot et al., 2002; Fisher and Turner, 2009). This is based on the notion that soil biodiversity can be seen as natural capital, and the flow of soil ecosystem services is the "interest" on that capital (Perrings et al., 2006). Just as private investors choose a portfolio of capital to manage risky returns, society needs to choose the level of soil biodiversity to maintain the flow of soil ecosystem services for human well-being. It follows that when the value of soil ecosystem services is unknown, policy could be misguided and society would be worse off due to insufficient investment in soil conservation.

The research is developed as part of the ECOFINDERS project that attempts to link soil biodiversity to ecosystem services and their economic valuation. The paper presents an economic analysis framework for soil ecosystem service valuation, gives an overview of the current literature and discusses the main challenges for development of policy relevant economic analyses to guide soil conservation.

References:

De Groot, R.S., Wilson, M., Boumans, R. 2002. A typology for the description, classification and valuation of ecosystem functions, goods and services. Ecol. Econ. 41:393-408.

Fisher, B., Turner, R.K., Morling, P. 2009. Defining and classifying ecosystem services for decision making. Ecol. Econ. 68:643-653.

Perrings, C., Jackson, L., Bawa, K., Brussaard, L., Brush, S., Gavin, T., Papa, R., Pascual, U., de Ruiter, P., 2006. Biodiversity in agricultural landscapes: Saving natural capital without losing interest. Cons. Biol. 20:263–264.

