Investigating the environmental damage: a detailed study about the main reference methods for economic and social aspects integration

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Abstract

In 2013, ISPRA (Italian National Institute for Environmental Protection and Research) and the Department of Business Studies of Roma Tre University signed a cooperative framework agreement to launch a joint research project for the development and the implementation of methodologies and tools able to accurately quantifying and assessing Environmental Damage, also considering the Life Cycle Assessment (LCA) approach and its application in the field (M.I.D.A. Research Program, Methodologies for environmental damage individuation).

In this view, the scientific literature on the Life Cycle Impact Assessment (LCIA) has been reviewed, in order to find those LCIA methods that could be suited to accomplish the goals of Environmental Damage Assessment. Recent developments are leading to advances in the practice of LCIA. Life Cycle Assessment (LCA) is definitely a useful tool in order to assess and quantify environmental impacts, but its appropriateness as a methodology to address the requirements of environmental damage remains uncertain.

As a first step, we have defined the environmental damage and so fully understand its requirements. Then, we have tried to find how, under the light of recent developments, the LCA methodology could offer opportunities to match these specific requirements.

After that, in the second phase we have considered different aspects for the assessment and quantification of environmental damage, including the risk assessment methods, and integrated it in a Corporate Social Responsibility (CSR) Strategy in a managerial perspective.

This paper shown these actual results and the outlook of these research project goals.

Keywords: *Environmental Damage, Risk Assessment, Environmental damage indicators, WTP, DALY, Impact Pathway*