Behind the life cycle of coal: Socio-environmental liabilities of coal mining in Cesar, Colombia

Open-pit coal mining in Cesar, Colombia, increased 74% between 2000 and 2012, generating environmental and social damages unacknowledged by companies and the state. This study aims to identify and value socio-environmental liabilities from coal mining at different stages of coal’s life cycle. Environmental liabilities can be operationalized under three types of responsibilities: moral, legal, and economic. The identification of environmental liabilities allocates moral responsibility. The legal responsibility is needed for effective reparation. The economic valuation provides arguments to claim compensation, seek remediation, and mitigation of damages. To identify socio-environmental liabilities, interviews were conducted and environmental mining conflicts were analyzed. To estimate monetary values, data was linked to existing literature on costs associated with damages. Results show that the economic values of socio-environmental liabilities per ton of extracted and exported coal are higher than the market price of coal. The main socio-environmental liabilities arise from pollution, local health deterioration, water table depletion, land and ecosystem services losses, damages from transportation and shipping, and coal reserve loss. A comparison with studies in China and the United States indicates that values increase when other health impacts and climate change on a global scale are included. The economic valuation of the environmental liabilities could be useful for identifying the concrete struggles of coal mining in order to ensure environmental justice is served.

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