

Prakhar Goel

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Personal information:

Prakhar Goel is an environmental enthusiast from heart and a socio-economic ponderer by mind who found his perfect career match through Erasmus Mundus MIND program. He did his engineering degree in Biotechnology from BIT Mesra (India). From childhood he has been working on various environmental projects, some of which have received recognition at national (India) and international level. He was an Indian Youth Delegate at the UNFCCC conference of climate change in Copenhagen (2009) and was selected as a young sustainable champion by Global Reporting Initiative (GRI- 2010). He has also served as student board member in International Society for Industrial Ecology (ISIE 2012-2013) and Erasmus Mundus course representative (2012-2013). His focus is to increase the credibility of sustainability assessments and help industries to adopt best practices.

Prakhar is currently working as Program manager in Control Union Netherlands. His work is to develop and manage programs for sustainability reporting, carbon footprints and life cycle analysis.

Title of thesis: Land use in LCA: A Critical Analysis

Abstract:

Land use leads to high impacts on climate change, biodiversity loss and soil quality. Inclusion of land use related environmental aspects into life cycle assessment (LCA) methodology has been under active development in recent years. The current literature in this field is very diverse, complex and often confusing for LCA practitioners. The aim of this thesis is to simplify the inclusion of land use in the LCA framework and provide a practical approach to deal with it.

This study tackles the various challenges associated with incorporation of land use into an LCA framework and contributes at the following three distinct levels namely theoretical, Inventory and Impact assessment. The various methods are analyzed both qualitatively and quantitatively using this case study. A case study to calculate land use impacts of 1 ton of soybean produced in Brazil or Argentina is used. An attributional LCA approach is used while using the case study.

The impact of land use in the climate change category is high and it is recommended to calculate the CO₂ equivalent for all the product system. There is no black and white among the various methods analyzed as all of them are built on assumptions. The choice among these depends on the question asked in the study.